

BPAI that the applicant provided no reason why one skilled in the art would not have been motivated to combine the prior art references provide Internet access. The examiner (and BPAI) determined that one of ordinary skill in the art would have been motivated to provide Internet access as an additional pay-for-use service in the public kiosks of Exhibit E (attachment C) and F (attachment D) based on the teachings of Shah (exhibit D- Attachment A). Shah was relied upon for its teaching of Internet access via a kiosk. In addition the BPAI found additional New grounds of rejection have been entered as to claim 9 under 35 U.S.C. § 112, fourth paragraph, and as to claims 6-9 under 35 U.S.C. § 103(a). The applicant's arguments concerning the BPAI rejections are discussed in section IV.

III New Arguments based on the Examiners final rejection and BPAI appeal decision

Just to be clear, the rejection (35 U.S.C. § 103(a)) of the applicants reissue is based on the combination Exhibits E & F (attachments C&D) and based on the teaching of Shah (Attachment A). The additional rejections by the BPAI will be addressed later in this document. Applicant will not directly address the combination of prior art discussed above since the new argument is that the Shah abstract teaches away from accessing the Internet.

A key point here is that the examiners (and BPAI) decision was based on the Shah reference teaching accessing the Internet (in combination with Exhibit E- Attachment C & Exhibit F-Attachment D). "Shah discloses a kiosk-based information system using the World Wide Web on the Internet as an interface (abstract)"

BEST AVAILABLE COPY

The Applicant maintains and will demonstrate that the Shah teaches away from accessing the Internet. And hence should not be used as a prior art rendering the applicants application as obvious in combination with exhibits E& F. The applicant maintains that the both the Examiner and BPAI misinterpreted or misread the Shah abstract. The Shah abstract does not teach accessing the Internet. It teaches away from accessing the Internet. The applicant will demonstrate this in the following analysis of the Shah Abstract.

Analysis of the Shah abstract-

Summary- The Shah abstract teaches using a World Wide Web type “interface” (or browser)(**Emphasis added**) as part of an information kiosk system. Below is a “cut-and-paste” of the Shah relied upon abstract paragraphs with an interpretation and comments.

The first paragraph calls out the systems that he is referencing are “kiosk based”

- The second paragraph talks about how the Internets World Wide Web has provided the internet with easy interface (**emphasis added**)
- The third paragraph talks about the requirements that that an information kiosk system based upon the World Wide Web must have. Hence, it talks about a Kiosk-based information system based upon the World Wide Web in the context of a type of user interface (emphasis added) to be used in another application, not accessing the Internet.
- Another key point

Abstract

Information kiosks provide users with access to community and local information in an easily understandable format. They are designed to be used by the average user who has little or no experience with computer or information systems. Kiosk-based information systems are already available at a variety of locations from airports to shopping malls to community information centers.

World Wide Web has provided the Internet with an easy interface superceding access systems with its popularity and its capabilities. The Web naturally lends itself to a distributed kiosk-based information system although there are special requirements for such a system that current Web clients and servers not provide.

In this paper we examine the requirements that an information kiosk system based upon the World Wide Web must have before it can be widely accepted as a distributed information system for commercial and non-commercial needs.

Below is a cut-and-paste of the Shah “Introduction” in the relied upon abstract.

- Again, in the introduction Shah talks about user-friendly interfaces. He means the design of the World Wide Web interface; the browser (**not accessing the Internet**).
- Another key point in understanding the abstract is Shah’s reference to Kiosk-based Information systems, not Internet based or accessible. Explicit that they are not connected to the internet, nor suggest it.

Introduction

Kiosk-based Information system has many requirements to create the most-user friendly interface while maintaining security and functionality. *User friendliness* is the most important factor for a public access information system because of the nature of the majority of its customers as non-computer professionals. Other factors that must also be considered for these systems are the functionality and security of the servers.

Below is a cut-and- paste of the next Shah abstract paragraph.

They key to understanding/interpreting this paragraph is in the first paragraph.

Shah asks the question is why one would use the World Wide Web as a **design** for a kiosk-based information system. Key points are World Wide Web as a **design** (emphasis added) and for a Kiosk- based information system. **Not Internet access.**

He goes on to talk about how the web and its capabilities (reference to the Browser or interface) are a standard on the Internet.

When he is talking about the Web, he clearly is talking about the Web and it’s user

interface. This paragraph has the only mention of the Internet in Shah's abstract. And it is only in the context of the Web (Browser) and its success on the Internet, not accessing the Internet

The Effectiveness of the World Wide Web as Kiosk-based Information System

The first question that should be asked is why one would use the World Wide Web as a design for a kiosk-based information system. We have identified the reasons why the Web is ideally suited for this application:

- the Web has proven itself as a successful networked information system through its popularity on the Internet.
- the Web is part of the Internet. This allows users access to the many services on the Internet.
- the ability of the Web to access other programs and services allows programmers to extend the capabilities of the server.
- the Web is a widely accepted standard as opposed to proprietary commercial multimedia systems which holds promise for its growth and development.

Below is a cut-and- paste of the next Shah abstract paragraph.

Shah talks about interest in the World Wide Web. Then he goes on to talk about the various browsers. In context, he is talking about the functionality of the browsers. **Not interfacing or accessing the Internet.** And then he goes on to talk about who may have an interest in a "kiosk based" information system (emphasis added).

Who will use these systems?

The next question asks who will actually implement and who will use these systems. There has been varied interest by commercial and non-commercial organizations in the World Wide Web. Currently there are several projects underway to develop a commercial version of popular Web browsers as well as commercial services for these browsers.

The following are some examples of who might implement such kiosk based information systems:

- Commercial, educational and governmental organizations who need to provide in-house information systems about their products and services. For example hotels, amusement parks, shopping malls, etc.

- Communities and organizations who want to install public access booths to provide community information at key locations within the community, such as community information networks, University campuses, Airport authorities, etc.
- Commercial Information Referral organization who wish to provide a paid service through kiosks

Below is a cut-and-paste of the next Shah abstract paragraph.

Here Shah talks about the recommended user interface of the Browser.

User Interface Program

- Non-essential items such as buttons or menubars not directly related to the content of each page or not required for the correct usage of the system should not appear. Such items may also give a user access to secure or incomplete areas of the Webspace.
- A common device such as a toolbar should always be present to provide users with a central control mechanism to the interface system. For example, users may wish to return to the home page or skip back to previously viewed pages. This device should be modifiable to the requirements of specific installations.
- Support for internationalization and non-English languages and character sets.
- The program should be able to keep track of the history of documents accessed by the user. It should be able to understand different usage session's counting each session as one beginning from the home page. It should remove the history of access from previous sessions.
- It may be able to display graphics and movies and play digitized sounds and voice overs.
- It may be able to launch other programs to be presented upon the same output devices.
- There should be a diagnostic mode for servicing the program or the kiosk-local system.

Below is a cut-and- paste of the next Shah abstract paragraph. Her Shah talks about servers. If this were indeed an Internet accessible system, there would be no need for servers. He talks about connecting to a network and stand-alone systems with no network interface. So, at the most what he discusses is a Local Areas Network (LAN). Emphasis added. Not accessing the Internet (Emphasis added).

The Server.

There are also suggested requirements for the Server program for these information kiosk systems. Commercial organizations will most likely have an invested interest in such information kiosk systems and may require that certain procedures should be followed by the servers for these systems.

Note that each kiosk may be a standalone system containing all the local information and with a link to the rest of the network. This would be a fast but costly system since the information requested the most often would be on local storage media. This may also be difficult to implement and maintain if there is a large amount of data. However, it will reduce the cost of the network link if a non-permanent circuit or dial-up connection is used.

Below is a cut-and- paste of the next Shah abstract paragraph. Here Shah talks about

servers. This is **probably the most important paragraph** in my claim that the Shah abstract teaches away from accessing that the Internet. Here is where he talks about the functionality of the kiosk- based Information system that he describes. Again, he talks about servers networked (LAN) providing the information. Not the Internet. If the system had functionality with the Internet it would have been in this paragraph.

Functionality

The server should be able to access foreign databases which act as storehouses of raw data. The server should be able to locate these databases and the information within with the least amount of processing or translation.

The server should have good support for graphics and graphical enhancements. The concept of imagemaps are almost a must. Mapping between commands and images enhances the ease of use of system. Also useful would be a reverse of the imagemap concept where a user selects an item or enters a piece of text and its corresponding image is displayed.

Each kiosk may in turn be a client only system which access the information over the network link from a remote server and caches the information locally. To transfer the information from the server down to the kiosk may take some time but it saves cost and reduces the maintenance. This may be expensive if network connect time charges are expensive.

Below is a cut-and- paste of the next Shah abstract paragraph. Her Shah talks about servers. Her Shah talks about storage of data and associated problems. If this were Internet based or assessable this would not be an issue. He also talks about a the problems associated with local Kiosks (not networked)

Storage and Transfer

Since these kiosks may be located at remote sites, the problems of data storage, caching and transfer becomes important especially considering that the information has to be presented in a rapid and predictable manner.

The problems of data storage are directly related to the actual implementation and hardware requirements of the system. Although no specific suggestions have been made as to the actual

computer system required for a kiosk-based information system, the general trend is to use cheaper and cost-effective equipment to reduce the problems of theft, vandalism, or damage.

If the server and data is located locally, the kiosk would only require to use the network when accessing remote documents. The kiosk-local computer system would not require a very large cache area since the documents can be accessed very rapidly.

If the server is located remotely more considerations come into play. The server must be able to respond and transfer documents in a limited amount of time over the network link. Servers might also be able to offload requests to other similar servers when they are too busy to respond. This suggests a form of server to server communication and load-balancing which is currently *not* a part of the HTTP specification. The data may require to be replicated across several storage systems and duplicate servers on other computer systems may be necessary as a failsafe measure to ensure constant access.

Below is a cut-and- paste of the next Shah abstract paragraph. Here Shah talks about

security. Shah talks about security of stand-alone and networked systems

Again, when networked, it's a LAN. When standing alone all information is contained on the Kiosks. No mention of Internet access or interface.

Security

Security of the server depends upon the type of implementation of the kiosk, whether standalone or remote server based. However, certain common elements exist in both, such as physical access to the server computer system. Access to the console of the server should only be allowed to secure personnel to ensure the safety of the information.

Network security is another issue. Access to the computer network that the servers are located on should be secure to reduce the chance of computer cracking or vandalism of the information. Since most servers run on common operating systems such as UNIXC, VMS, etc, operating system security is also a crucial element in the safety of the information.

Data managers should decide upon a protocol for operator access, updating and maintenance of the information since it can affect the lives of many others.

Another form of access is dependent upon the content of the documents. A public system will not often.... (Article cuts off here. But irrelevant...)

No comments on the last paragraph.

Control

Control involves the access to the Server and kiosk system for diagnostic examinations and also modification of the information space. Control is tied is very closely with security.

Operators and Data Managers may wish to log access to documents for statistical analysis. Keeping accurate logs of document access can help administrators anticipate growth of the installation.

Each installation should be able to decide which URI's are accessible through their server. Some installations may decide that they do not wish to provide their kiosks with access to the "news" or "mailto" services.

Commercial organizations may also wish to charge customers for access to specific access to documents or services. The concept of registered users and billing may be built in to the server.

In summary, the Shah abstract teaches using the World Wide Web “interface design”(browser) on a stand-alone (local) or networked (LAN). Therefore, it clearly teaches away from accessing the Internet. As the Shah prior art was the main reference that examiner (and BPAI) decided was rendering the applicant application obvious (because it teaches accessing the internet), when combined with Exhibits E and F. The Shah abstract does not teach, in 1994, providing Internet access from a public kiosk in order to give users access to the many services on the Internet. The analysis provided above clearly demonstrates this fact. The applicant feels that he has provided a clear and convincing argument to overcome the examiners rejection in the Final Office Action and appeal brief to the BPAI. Because of the amended claims, the applicant does not discuss the rejections directed towards the other claims.

IV Arguments based on the BPAI rejections

The BPAI found additional grounds for rejection. Claims 6-9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Exhibit C (including Exhibits C, 1 to C, 6), Exhibit D, Exhibit E, Exhibit F, L&G ISDN console, Internet Navigator, Aliens, and On Haiti.

The BPAI also concluded that the following references were prior art:

- TOUCHFAX AMERICA, video tape recorded May 14, 1993, and distributed by TouchFax Information Services as advertising at the May 1993 Comdex in Atlanta, Georgia, 1993 TouchFax Information Services, Inc., (Exhibit C to TouchNet Protest) (Artifact No. 09134831VA), including six printouts of frames from the video tape (Exhibit C, 1 to Exhibit C, 6) (Artifact No. 09134831CA).
- Deposition of Daniel Toughey in Mettke v. TouchNet, No. CV-98-PT-596-E, pp. 40-53, discussing Exhibit 5 to deposition, Pages 40-53
- TouchFax Network Topography Diagram, © 1991 TouchFax Information Systems, Inc. (Exhibit D to TouchNet Protest).
- Allen Weiner, TouchFax Provides the Ultimate In Place-Based Interactivity, Interactive World (October 1992), pp. 48-49 (Exhibit E to TouchNet Protest).
- VISION ... POWER ... VERSATILITY, F700 Public Communications Terminal brochure, TouchFax Information Systems, Inc. (© 1991) (Exhibit F to TouchNet Protest).
- Landis & Gyr, ISDN console, Public telephone and telematic console, available in 1988 (Exhibit C to Protest of Griffes Consulting SA) (hereinafter "L&G ISDN console").
- Paul Gilster, The Internet Navigator (2d ed. John Wiley & Sons, Inc. 1994⁶), pp. 15-18, 24, 25, 56, 57, 195, 221-225 (hereinafter "Internet Navigator").
- Andrew Cantor, Aliens Among Us, Internet World, Nov/Dec 1994, pp. cover, index (2 pages), 82-84 (hereinafter "Aliens").
- On Haiti, Shooting From the Lip, Washington Post, October 6, 1994, from Lexis/Nexis (hereinafter "On Haiti").

Prior Art Discussion:

The applicant disagrees that “TOUCHFAX AMERICA, video tape recorded May 14, (Exhibit C to TouchNet Protest) (Artifact No. 09134831VA), including six printouts of frames from the video tape (Exhibit C, 1 to Exhibit C, 6) (Artifact No. 09134831CA)” is prior art. The video tape is clearly a concept, experimental, an idea and marketing tool. Not permitted in prior art. The examiner rightfully excluded it in an Office Action dated August 24 1999, page 8, 3rd paragraph”. Although Exhibit C, 4 shows a frame from the video tape of exhibit C advertising connection to the Internet, it was stated in the deposition Daniel J. Toughey (attachment, pages 14-15) that the terminal shown in the video tape did not actually enable a user to gain access or interface with the Internet. This alone should have negated its use as prior art. The applicant also disagrees that TouchFax Network Topography Diagram, © 1991 TouchFax Information Systems, Inc. (Exhibit D to TouchNet Protest) is prior art. In his deposition (attachment I, page 22 & 98), Mr. Toughey states specifically that in 1991 (the time the document was distributed), the terminals did not have access to the Internet, Prodigy and CompuServe. Again, a concept, experimental, an idea and marketing tool. Not permitted in prior art. This alone should have negated its use as prior art. Probable utility does not establish practical utility. Because the applicant has amended the claims, he will only address those rejections that are related to the amended claim 6.

The BPAI rejected claims 6-9 under 35 U.S.C. § 103(a) as unpatentable over Exhibit C (including Exhibits C, 1 to C, 6), Exhibit D, Exhibit E, Exhibit F, L&G ISDN console, Internet Navigator, Aliens, and On Haiti.

The BPAI states that in Exhibit E it states that "'The TouchFax is designed to emulate exactly what a person will be able to use in their homes,' says Massey" (page 31, line 16 of BPAI decision) and the application, as originally filed, acknowledges that home and business provided access to online service providers and the Internet; thus, there is a suggestion to modify the TouchFax terminals to provide public online services and public Internet access as those features became common at home and business."

The applicant does not understand how this is a "suggestion to modify" a TouchFax terminal to include Internet access and interface. The only suggestion would be if they (Touchfax) saw the applicant's disclosure and added this capability to their terminal. In fact, Mr. Toughey's, states in his deposition that the Touchfax terminals and exhibits above did not have the capability to access the Internet prior to the date of the applicant's disclosure in January 25, 1995. He also goes on to state that as of the date of his deposition, **June 16, 1998**, **no** Touchfax terminals had the capability access and interface with the Internet (Attachment I, pages 14-15, 44). This is three and a half years after the applicant's disclosure on January 23, 1995. This clearly points to nonobvious and demonstrates a lack of suggestion, teaching or motivation.

The BPAI suggests that the motivation to combine any of the teachings of TouchFax Exhibits C, D, E, and F is that all of the exhibits are from the same corporation, TouchFax, and expressly teach modifications.

The applicant respectfully disagrees that there is motivation to combine Exhibits C, D, E, and F and that they expressly teach the modifications to add Internet access and interface on a point-of-sale basis. The BPAI does not "show" objectively how the references teach this modification other than seeing the applicant's disclosure in January 1995.

Mr. Massey's statements that they (exhibits E & F) have the capability to expand or modify the terminal applications to "meet customers needs" are indefinite and probable. Of course he is going to say this when he is under going a litigation deposition. There is no corroboration of his statements. In fact, Mr. Toughy's, states in his deposition that the Touchfax terminals and exhibits above did not have the capability to access or interface with the Internet prior to the date of the applicant's disclosure in January 25, 1995. He also goes on to state that as of the date of the deposition, **June 16, 1998**, **no** Touchfax terminals had the capability access and interface with the Internet (Attachment I, pages 14-15,44). This was three and half years after the applicant's disclosure and clearly points to **unobviousness**.

I would like to point out that there are distinct and clear difference's between Commercial On-line Services (AOL, Prodigy, CompuServe,etc) and the Internet. The BPAI has for the most part adequately defined them. I shall not repeat the descriptions here.

I will take exception to their interpretation of access (and interface; which was not addressed in the email analysis) to the Intranet. The BPAI stated that because some of the Commercial On-line services provided the email provided access to the Internet via e-mail. The board stated on page 47 (BPAI decision), that the claims recite access to the Internet are met by access to one service on the Internet, such as e-mail. The board also states that email through a Commercial On-line service provider that uses the Internet to send qualifies as "access to the Internet". What about interface?

The applicant respectfully disagrees that accessing on-line service providers qualify as Internet access and interface. Claim 6 states "accessing the Internet " as well as

interfacing with the Intranet. My claims do not say that you have to go through the method of point A (commercial on-line service) and B (send an email) and then point C email goes through the back office on-line service propriety architecture and may or may not be sent over the Internet. Clearly the claims in 6 say access and interface with the Internet. You either have access and interface or not. This an area that the applicant feels is clear a case of blue printing by the BPAI; using my disclosure to put together pieces of prior art to teach my claims.

On Haiti describes that "'Cyberia' -- a 'cyberspace cafe' --has opened recently in central London offering coffee, cakes and connection to the Internet. Connect charge: 1.95 British pounds per half-hour."

On Haiti has 26 words in the article. There is not enough information to assess this prior art. There is not enough detail that discloses the structure, interface, and processes for this reference to be applied as prior art. Let alone suggesting, teaching or showing motivation to combine. Regardless, the BPAI has not provided any clear specific evidence to support the combination or modification as they suggest.

The Landis & Gyr, ISDN console, Public telephone and telematic console. The examiner had reviewed; this relied upon prior art by the BPAI. In an Office Action Summary, dated August 24, 1999, the Examiner stated on page 8- 9, ".they lack certain elements in the claims, such as a printer, touch screen interface and Internet access." Hence it was not relied on prior art. The applicant agrees.

The scope of the invention Arguments

The BPAI defined the applicant's field of endeavor as a pay-per-use public communication terminal, and the particular problem with which the invention was concerned with was

providing access to the Internet. Exhibits C, D, E, F, L&G ISDN console, and On Haiti relate to pay-for-use public communication terminals. The BPAI also said the references were within the inventor's field of endeavor. The Internet Navigator and Aliens relate to on-line service providers and access to the Internet and are reasonably pertinent to the problem of providing Internet access and interface or as pay-as you-use application.

The applicant respectfully disagrees that the terminals listed above (Exhibits C, D, E, F, L&G ISDN console) are within the field of endeavor (nor are they pertinent) to the matter at hand. They are not analogous art. None solve the problem of accessing the Internet or interface as the applicant's claims represent. If the terminals accessed the Internet (the problem that the applicant solves), allowed for interface on a point-of-sale basis, then they may have been pertinent and relating to the applicants field of endeavor. The BPAI use of Public Communications terminal is too broad as a field of endeavor. Communications relates to many sub areas, facsimile machines, telephones, televisions, cellular phone and global positioning systems just to mention some of the areas.

The BPAI brief states "Exhibit C expressly discloses that the TouchFax terminal can be built to provide access to the Internet. The fact that Exhibit C is a later improvement of the TouchFax terminal of Exhibits E and F, and is by the same corporation, provides the express suggestion to modify Exhibits E and F to provide access to the Internet. Exhibit C is not been applied as the main reference because it is easier to point to teachings in writings than in a video tape. Because Exhibits C, E, and F are pay-for-use public terminals, one skilled in the art would have been motivated to charge for access to all telephone, facsimile, and computer services, including an added computer service of access to the Internet.

It has been proven by statements in a deposition by Mr. Toughey, (Attachment I, pages 14-15,44), that the terminal in Exhibit C did not access or interface with the Internet. That the tape was a vision or concept. Also, in his deposition he stated that as of the date of the deposition (June 16, 1998), 3 ½ years after the applicants disclosure, that the referenced Touchfax terminals still did not have the capability to access and interface with the Internet as in the applicant's claims. So, how could it be a later improvement as stated by the BPAI? Applicant fails to see how exhibit C "demonstrates" that the terminal "can" be built. Particularly when the owner of Touchfax stated that they did not have terminals capable of accessing and interfacing with the Internet, as previously mentioned in his deposition as late as June 1998. Furthermore, the applicant fails to see any objective or specific reasons provided by the BPAI as to how exhibits C, E and F show motivation to add Internet access and interface. Again, the owner of Touchfax stated that they did not have terminals capable of accessing and interfacing with the Internet as previously mentioned in his deposition as late as June 1998 and exhibit C was a marketing tool and concept. Probable utility is not practical utility.

The BPAI brief states that" Exhibit D discloses that it was known to be able to connect the TouchFax pay-for-user terminal to online service providers, such as CompuServe and Prodigy, in 1991. The fact that Exhibits D, E, and F all relate to a TouchFax terminal by the same corporation provides **the express** suggestion to modify Exhibits E and F to provide access to online service providers.

Regardless of the BPAI interpretation of what qualifies for Internet access, the *Internet Navigator* clearly points out, on-line service providers are not the Internet (page 57). As previously discussed, Touchfax representatives stated (in a deposition) that in 1991, the

date of the publication, that they did not have access to on-line services such as Prodigy and CompuServe. This should have negated this document as any type of reference. The BPAI stated that they approached “the obviousness issue from two directions. First, Exhibits E and F are selected as the main references because they describe the general pay-for-use public terminal described in the original application, and we **then show why it would have been obvious** to modify the terminal to provide for pay-for-use access to the Internet. Second, On Haiti describes payment for use of a computer terminal to access the Internet, but does not disclose payment using a credit card reader or a printer, and we explain why it would have been obvious to add a credit card reader and printer. Exhibit C expressly discloses that the TouchFax terminal can be built to provide access to the Internet. The fact that Exhibit C is a later improvement of the TouchFax terminal of Exhibits E and F, and is by the same corporation, provides the **express suggestion** to modify Exhibits E and F to provide access to the Internet. Exhibit C is not been applied as the main reference because it is easier to point to teachings in writings than in a videotape. Because Exhibits C, E, and F are pay-for-use public terminals, one skilled in the art would have been motivated to charge for access to all telephone, facsimile, and computer services, including an added computer service of access to the Internet. Exhibit D discloses that it was known to be able to connect the TouchFax pay-for-user terminal to online service providers, such as CompuServe and Prodigy, in 1991. The fact that Exhibits D, E, and F all relate to a TouchFax terminal by the same corporation provides the express suggestion to modify Exhibits E and F to provide access to online service providers.

On Haiti discloses charging for use of a public computer terminal to access to the Internet.

One of ordinary skill in the art would have been motivated to add pay-for-use Internet access to the pay-for-use public terminals of Exhibits E and F because it merely adds an additional pay-for-use service.

The applicant fails to see any motivation, teaching or desirability to combine the references as shown; to teach the applicants claims. Nor does the applicant see how one skilled in the art would have been motivated by the BPAI reasoning for obviousness described above. The BPAI states that they are not relying on Exhibit C as a main reference, but ties it in with Exhibits D, E&F and On Haiti. The applicant fails to see how there can be an “express suggestion” to use Exhibit C, D, E & F in a combination to modify. As previously mentioned, Exhibit C was marketing tool and concept, not a capability. The owner of Touchfax stated that they did not have terminals capable of accessing and interfacing with the Internet as previously mentioned in his deposition as **late as June 1998**. Also as previously mentioned, Exhibit D did not have the all the capabilities listed on it in 1991, particularly access to on-line services. Exhibit D was simply a concept or idea, a listing of capabilities that that did not exist at the time (1991). This was stated in a deposition by the owner of Touchfax ((Attchmnet I, pages 22&98).

V. Remarks

The BPAI has not shown any objective or specific teaching, suggestion or motivation as to why someone skilled in the art would combine the prior art references to yield what is in the applicant’s disclosure, of January 1995, even though they approached the obvious analysis from two different avenues. The applicant clear shows why in this RCE. The applicant feels that the BPAI used the applicant’s disclosure to blue print pieces of prior

art to defeat patentability. This has been clearly shown in the above arguments. As demonstrated in the applicant's arguments, the BPAI decision appears to be a discussion of the ways multiple art references can be read on the claimed invention in **January 1995**.

The BPAI has failed to show any pertinent desirability that would suggest, teach or motivate the combination of the relied on prior art that would produce the results in the applicant's claims, disclosed in **January 1995**.

The applicant feels that he has provided a clear and convincing argument to overcome the examiners rejection in the Final Office Action and appeal brief to the BPAI, as well as the BPAI rejections of obviousness to issue an allowance.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Mettke', with a stylized flourish at the end.

Richard P. Mettke
7921 Panary Court,
Reynoldsburg, OH 43068

Voice: 614-861-1847

FAX: 614-458-6446

Email: rmettke@aol.com

ATTACHMENTS:

Attachment A- Rawn Shah, Suggestions for Information Kiosk using the World Wide Web, <http://www.rtd.com/people/rawn/kiosk-paper.html> (April 30, 1994), download date 2/3/99, pp. 1-5 (Exhibit I to Protest by North Communications, Inc.)

Attachment B- Black and white copies of Exhibits C,1 to C, 6, which are copies of frames from TOUCHFAX AMERICA, video tape recorded May 14, 1993. TouchFax Network Topography Diagram, © 1991 TouchFax Information Systems, Inc. (Exhibit D to TouchNet Protest).

Attachment C- Allen Weiner, TouchFax Provides the Ultimate In Place-Based Interactivity, Interactive World (October 1992), pp. 48-49 (Exhibit E to TouchNet Protest).

Attachment D- VISION ... POWER ... VERSATILITY, F700 Public Communications Terminal brochure, TouchFax Information Systems, Inc. (© 1991) (Exhibit F to TouchNet Protest).

Attachment E- TouchFax Network Topography Diagram, © 1991 TouchFax Information Systems, Inc. (Exhibit D to TouchNet Protest).

Attachment F- Paul Gilster, The Internet Navigator (2d ed., John Wiley & Sons, Inc. 1994), pp. 15-18, 24, 25, 56, 57, 195, 221-225.

Attachment G- Andrew Cantor, Aliens Among Us, Internet World, Nov/Dec 1994, pp. 82-84.

Attachment H -On Haiti, Shooting From the Lip, Washington Post, October 6, 1994, from Lexis/Nexis.

Attachment I- Deposition of Daniel Toughey in Mettke v. TouchNet Information Systems, Inc., No. CV-98-PT-0596-E (N.D. Ala. filed June 16, 1998), Pages 1-3,14-15, 22,44 & 98

Suggestions for Information Kiosk Systems using the World Wide Web

Rawn Shah

rawn@rtd.com

RTD Systems & Networking, Inc.

2601 N. Campbell Ave., Ste 202B

Tucson, Arizona, 85719

+1 602 318 0696 [US]

The World Wide Web Information Kiosks Special Interest Group

30 April 1994



Abstract

Information kiosks provide users with access to community and local information in an easily understandable format. They are designed to be used by the average user who has little or no experience with computer or information systems. Kiosk-based information systems are already available at a variety of locations from airports to shopping malls to community information centers.

The World Wide Web has provided the Internet with an easy interface superceeding other access systems with its popularity and its capabilities. The Web naturally lends itself to a distributed kiosk-based information system although there are special requirements for such a system that current Web clients and servers do not provide.

In this paper we examine the requirements that an information kiosk system based upon the World Wide Web must have before it can be widely accepted as a distributed information system for commercial and non-commercial needs.

Kiosk based

Introduction

A Kiosk-based Information system has many requirements to create the most user-friendly interface while maintaining security and functionality. User-friendliness is the most important factor for a public access information system because of the nature of the majority of its customers as non-computer professionals. Other factors that must also be considered for these systems are the functionality and security of the servers.

The Effectiveness of the World Wide Web as Kiosk-based Information System

The first question that should be asked is why one would use the World Wide Web as a design for a kiosk-based information system. We have identified the reasons why the Web is ideally suited for this application:

- the Web has proven itself as a successful networked information system through its popularity on the Internet.

EXHIBIT

I

Attachment A-

- a multimedia tool is the primary type of program used by information systems because of the combination of text, graphics and sound are more appealing. The many different Web browsers have these capabilities already.
- the Web is part of the Internet. This allows users access to the many services on the Internet.
- the ability of the Web to access other programs and services allows programmers to extend the capabilities of the server.
- the Web is a widely accepted standard as opposed to proprietary commercial multimedia systems which holds promise for its growth and development.

11 web designs

Who will use these systems?

The next question asks who will actually implement and who will use these systems. There has been varied interest by commercial and non-commercial organizations in the World Wide Web. Currently there are several projects underway to develop a commercial version of popular Web browsers as well as commercial services for these browsers.

The following are some examples of who might implement such kiosk-based information systems:

- Commercial, educational and governmental organizations who need to provide in-house information systems about their products and services. For example, hotels, amusement parks, shopping malls, etc.
- Communities and organizations who want to install public access booths to provide community information at key locations within the community, such as community information networks, University campuses, Airport authorities, etc.
- Commercial Information Referral organizations who wish to provide a paid service through such kiosks.

The Access Interface

The Access Interface comprises both the programs as well as the computer hardware necessary for a kiosk-based information system. This includes the Web browser or client program, the output hardware (the visual display unit, a sound system, printing systems), the input hardware (touch-screen systems, keyboards, light-pens & stylus, keypads, etc.), the kiosk-local processing hardware (if any), kiosk-local cache or information storage (if any), and the network connection hardware.

The user interface or Web browser will be accessed by the average user who may have very little or no experience with computer system. The user interface for a kiosk-based information system should be:

- Easy to use controls. Controls for the kiosk system should be understandable and easy to handle.
- Easy to understand information display. The text or visual information should be easily readable and understood in content and form by the user.
- Access to contents should be as direct as possible. The user should have to go through as few steps as possible for to reach the information they require.
- Documents should be transferred in as short an access time as possible, or present a failed message if the time to access the document is longer than a certain amount considered as $t=\infty$.
- The program interface should be able to return to a default home page automatically when left idle for an extended period of time.
- The physical unit should be reasonably secure to tampering or vandalism so as not to provide incorrect information.

The following are suggested requirements for an access interface based upon the above suggestions:

• Physical Requirements

- A minimal number of input devices so as not to confuse the user.
- Easy to use input devices such as a touch-screen or stylus based system
- The unit must be at an adequate height so that it is accessible by most people including handicapped users.
- The output devices should be easy to understand. Visual display output devices should be large enough to be read without difficulty by any type of user. A sound system should be clear enough to be understood but not loud enough to offend.
- Security against vandalism or theft of the kiosk should be maintained.
- A set of clear operating instructions for the booth must be displayed in some form on the physical unit of the booth to ensure proper usage.

• User Interface Program

- Non-essential items such as buttons or menubars not directly related to the content of each page or not required for the correct usage of the system should not appear. Such items may also give a user access to secure or incomplete areas of the Webspace.
- A common device such as a toolbar should always be present to provide users with a central control mechanism to the interface system. For example, users may wish to return to the home page or skip back to previously viewed pages. This device should be modifiable to the requirements of specific installations.
- Support for internationalization and non-English languages and character sets.
- The program should be able to keep track of the history of documents accessed by the user. It should be able to understand different usage sessions counting each session as one beginning from the home page. It should remove the history of access from previous sessions.
- It may be able to display graphics and movies and play digitized sounds and voice overs.
- It may be able to launch other programs to be presented upon the same output devices.
- There should be a diagnostic mode for servicing the program or the kiosk-local system.

The Server

There are also suggested requirements for the Server program for these information kiosk systems. Commercial organizations will most likely have an invested interest in such information kiosk systems and may require that certain procedures should be followed by the servers for these systems.

Note that each kiosk may be a standalone system containing all the local information and with a link to the rest of the network. This would be a fast but costly system since the information requested the most often would be on local storage media. This may also be difficult to implement and maintain if there is a large amount of data. However, it will reduce the cost of the network link if a non-permanent circuit or dial-up connection is used.

Each kiosk may in turn be a client only system which access the information over the network link from a remote server and caches the information locally. To transfer the information from the server down to the kiosk may take some time but it saves cost and reduces the maintainence. This may be expensive if network connect time charges are expensive.

Functionality

Functionality of the server is key to its success. The more special functions it serves and the greater the extensibility of the server program, the better its chances of success as a popular system.

The server should be able to access foreign databases which act as storehouses of raw data. The server should be able to locate these databases and the information within with the least amount of processing or translation.

The server should have good support for graphics and graphical enhancements. The concept of imagemaps are almost a must. Mapping between commands and images enhances the ease of use of system. Also useful would be a reverse of the imagemap concept where a user selects an item or enters a piece of text and its corresponding image is displayed.

Storage and Transfer

Since these kiosks may be located at remote sites, the problems of data storage, caching and transfer becomes important especially considering that the information has to be presented in a rapid and predictable manner.

The problems of data storage are directly related to the actual implementation and hardware requirements of the system. Although no specific suggestions have been made as to the actual computer system required for a kiosk-based information system, the general trend is to use cheaper and cost-effective equipment to reduce the problems of theft, vandalism, or damage.

If the server and data is located locally, the kiosk would only require to use the network when accessing remote documents. The kiosk-local computer system would not require a very large cache area since the documents can be accessed very rapidly.

If the server is located remotely more considerations come into play. The server must be able to respond and transfer documents in a limited amount of time over the network link. Servers might also be able to offload requests to other similar servers when they are too busy to respond. This suggests a form of server to server communication and load-balancing which is currently not a part of the HTTP specification. The data may require to be replicated across several storage systems and duplicate servers on other computer systems may be necessary as a failsafe measure to ensure constant access.

Security

Security of the server depends upon the type of implementation of the kiosk, whether standalone or remote server based. However, certain common elements exist in both, such as physical access to the server's computer system. Access to the console of the server should only be allowed to secure personnel to ensure the safety of the information.

Network security is another issue. Access to the computer network that the servers are located on should be secure to reduce the chance of computer cracking or vandalism of the information. Since most servers run on common operating systems such as UNIX, VMS, etc., operating system security is also a crucial element in the safety of the information.

Data managers should decide upon a protocol for operator access, updating and maintenance of the information since it can affect the lives of many others.

Another form of access is dependent upon the content of the documents. A public system will not often

contain restricted documents but data managers may wish to restrict certain areas of their Webpace dependent upon their own criteria.

Control

Control involves the access to the server and kiosk system for diagnostic examinations and also modification of the information space. Control is tied in very closely with security.

Operators and Data Managers may wish to log access to documents for statistical analysis. Keeping accurate logs of document access can help administrators anticipate growth of the installation.

Each installation should be able to decide which URI's are accessible through their server. Some installations may decide that they do not wish to provide their kiosks with access to the "news" or "mailto" services.

Commercial organizations may also wish to charge customers for access to specific documents or services. The concept of registered users and billing may be built into the server.

References

- Berners-Lee, Tim, (1993). *Hypertext Transfer Protocol*, Working Internet Draft. CERN
- Cronin, Mary J. (1993). *Doing Business on the Internet: How the Electronic Highway is Transforming American Companies*, New York, NY: Van Nostrand Reinhold.
- Gaffin, Adam (1994). *Visiting Museums on the Internet*, Internet World Magazine, MecklerMedia Publishing, Inc. March/April, pg 24.
- Krol, Ed., (1994). *The Whole Internet User's Guide & Catalog*, Second Edition, Sebastopol, CA: O'Reilly & Assoc.
- MERIT, Inc. (1994). *NSFNET Byte Traffic History*.
URL: <ftp://nic.merit.edu/nsfnet/statistics/history.bytes>, March.
- Shah, Rawn, (1994). *Information Kiosks and the World Wide Web*,
URL <http://www.rtd.com/people/rawn/kiosks.html>

PLAY TOUCHFA:0:08
Information Systems, Inc.
TOUCHFAX AMERICA

IRI: 1:20

WITH MUSIC

Audio: Mono

Recorded: 5-14-93

VPR Creative Gy:00:01:4

EXHIBIT

C-1

0-10-1924

EXHIBIT

C, 2

Reberg No. 5119



1052

THE

100

1

TouchFax

THE UNIVERSITY OF CHICAGO



1950

THE
JOURNAL
OF
THE
ROYAL
ANTHROPOLOGICAL
INSTITUTE



THE



1953

卷之四

5050

EXHIBIT

၇၂

berg No. 5119

HCI Mail

Internet

INVESTIGATION

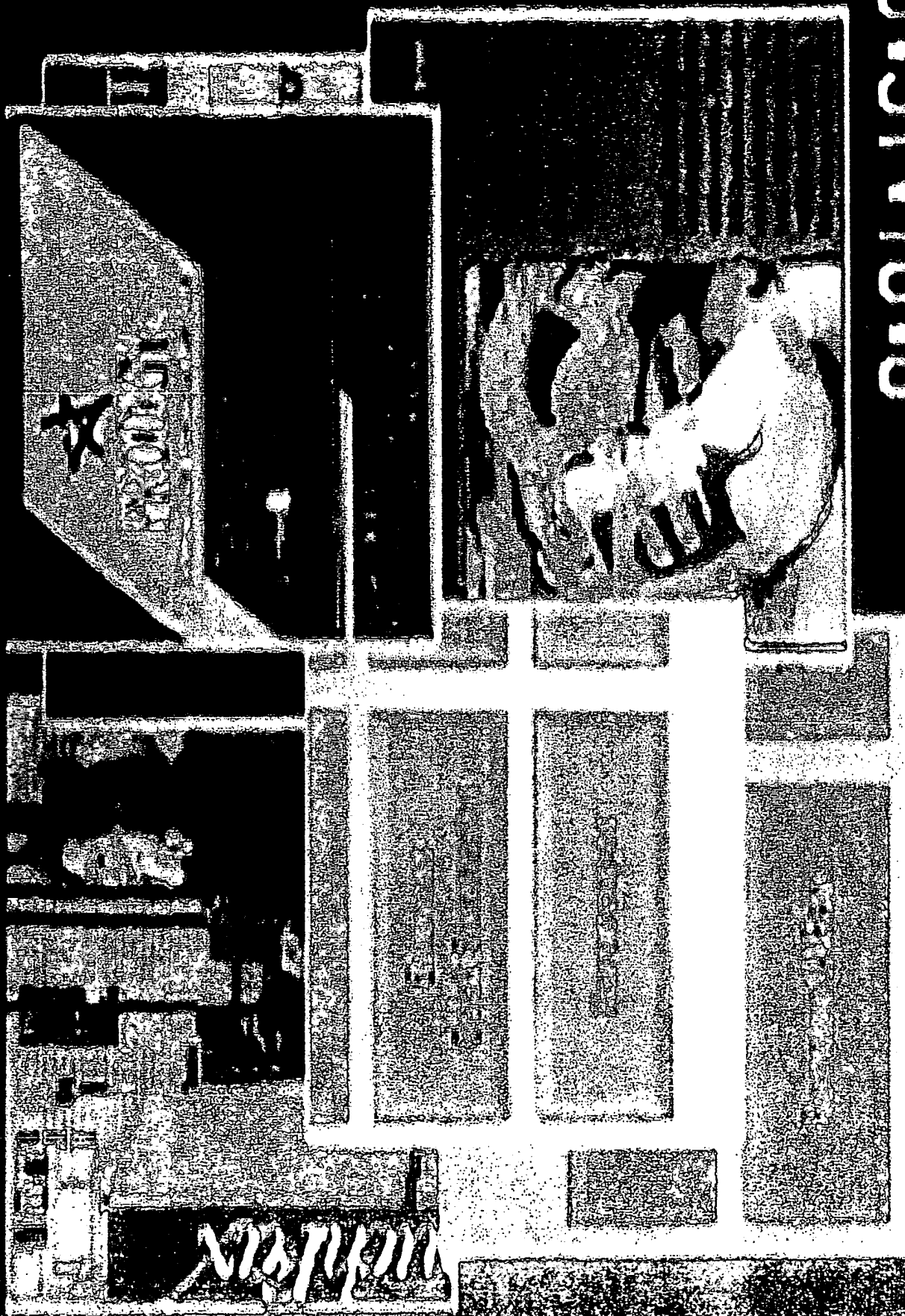
EXHIBIT
C, 4

mlberg No. 5119

EXHIBIT

0:00:34:9

EXHIBIT
C, 5
berg No. 5119



0:01:16:6

EXHIBIT

C-6

Sheng No. 5119

TouchFax

TouchFax Provides The Ultimate In Place-Based Interactivity

By Allen Weiner, Editor

If you think of TouchFax Information Services, Inc., as a company that manufactures public fax machines, you have only part of the picture. In the rapidly growing arena of place-based media, TouchFax is creating products that will allow consumers the same sort of interactive capabilities as they will have with their home-based interactive appliances.

"We believe the information for the machine can be strategically designed for the location type so the type of services and the type of information that can be retrieved interactively on our terminals can be totally different from one machine to another," says John Massey, the machine's creator and chairman of the Lenexa, Kan.,-based company.

"We always will have a basic set of common services that are available on all machines," he adds. "But, particular machines will have unique sets of advertisements and promotions on them, as well as related services that relate to the type of people that frequent a particular type of location."

And locations are key to the TouchFax family of products. Massey believes they are best utilized in places where "a number of different types of users can interact with their desired and preferred telecommunications service." Airports, hotels, truck stops, apartment complexes and even supermarkets are ideal for these multi-functional, multimedia machines.

TouchFax hardware products include three models of public terminals used initially as pay-per-use fax machines. They also can provide other services such as word processing and high-quality copies in addition to its primary communications capability of phone, fax and computer. Service products include personal fax mailboxes and information services which may be accessed by TouchFax public terminals and any private fax machines.

The TF Series public terminals are location specific and are designed to meet the space in which they will reside. For example, a lower cost unit designed for lower traffic locations also has a smaller paper storage capacity and would require more frequent service calls if placed in a high traffic location.

All TouchFax terminals use proprietary



Best Available Copy

Attachment C 1

software to create an easy-to-use visual control panel. This user interface to the machine is displayed on a touch-sensitive color video monitor which provides instructions to the user and on-screen buttons to operate the terminal functions.

Documents to be sent are scanned on a jam-proof flatbed scanning device which operates much like a standard copy machine. Payment for services is made by using credit card or other magnetic card such as a telephone calling card. The terminal provides a detailed printed receipt of the transaction for expense account record keeping.

"It's a system that will be deployed nationally and internationally that is designed to be a public terminal, as well as a service that goes into the home."

Best Available Copy

TouchFax's TF750 is a free-standing kiosk with a high-resolution, 14-inch color touchscreen monitor, 386 microprocessor, high-volume laser printer, full-size keyboard and data port for modem and laptop connections. The TF450 is a built-in, wall-mounted unit that has an optional floor mount and offers the data ports for modem and laptop connections on an optional basis. The TF200 is a built-in, wall-mounted unit that offers a laser printer as an upgraded feature.

TouchFax offers two service products which adds to its flexibility—a fax mailbox service and electronic library. The TouchFax Mailbox is a centrally managed electronic service capable of storing fax messages. Mailbox subscribers are given a personal phone number to allow fax messages to be sent to their mailboxes, stored in the mailbox and retrieved at any time. To retrieve stored messages, the subscriber calls his mailbox number, enters a Personal Identification Number, enters the fax destination number and the system forwards the stored fax messages as instructed.

The TouchFax Electronic Library is a collection of information products organized by category. These information products are made available by combining information databases and high-resolution fax printer output with the ease of remote telephone communications. Information products are available on TouchFax public terminals and from any private fax machine.

On a TouchFax public terminal, the touchscreen provides an interactive dialog between the consumer and the information provider. For example, a consumer can select OAG FlightFax to get up-to-the-minute flight information, seat availability and fares. The consumer is guided through a series of video screens requesting their specific flight schedule. The TouchFax public terminal then sends the information via computer modem to OAG's database and a one-page personalized report is delivered to the TouchFax terminal by facsimile.

To access the TouchFax Electronic Library from your home or office requires a touch-tone telephone. A user responds to a series of audio prompts and directs the document to his home or office fax machine. For example, consumers can define the content of an up-to-the-minute special interest newsletter compiled from the news resources of *USA Today*.

Users also can request details of forecasters weather conditions in their destination city, maps and directions to specific locations, as well as city guides with suggestions on where to dine and what to see. Other services are oriented specifically toward entertainment and include popular business book summaries, personalized cartoon fax messages and event schedules.

In essence, TouchFax provides the future interactive appliance user a similar service to what he will be able to access with his Interactive Video Data Service terminal, touchscreen telephone or interactive cable device. So, home or away, the consumer can be interactive.

"The TouchFax is designed to emulate exactly what a person will be able to use in their homes," says Massey. "It's a system that will be deployed nationally and internationally that is designed to be a public terminal, as well as a service that goes into the home."

FREE EVALUATION



Bill Fawcett the producer of the Ricardo Montalban T.V. Infomercial show is now looking for more amazing products for T.V!

- Joint Venture Funding available through the RRAM Corporation for media purchase
- Turnkey Production and Marketing from product evaluation to direct response scripting...from celebrity negotiation to legal...from production to media
- Lowest Prices Guaranteed for Infomercial broadcast quality production. Affordable quality commissionable

Another Fawcett speciality is producing sales videos for companies. *Inquire about Fawcett's Guaranteed Direct Response Rate Program.™*

Call (714) 453-1910
To submit your products for a free evaluation.

Fawcett's VideoMarketing
15375 Barranca Pkwy
Suite #B - 204
Irvine, California 92718
Fax: (714) 753-7470

READER SERVICE NO. 29

(6)

VISION. . .

Leaders see the possibilities before they become obvious. The TF700 is designed with the understanding that the information age is just beginning. It incorporates the latest technology into an integrated system that can meet the communications needs of today and tomorrow.

POWER. . .

Every leader has a great mind. The "mind" of the TF700 is a powerful hardware/software system engineered to provide a comprehensive set of communication functions. TouchNet™ network management software collects usage and billing data, monitors equipment status and uploads documents, software and video screens. This enables operators to remotely manage thousands of TouchFax terminals from one location. The TF700 has the additional power to access other computer systems and enhanced fax services like our own InfoTouch™ electronic library.

VERSATILITY. . .

Leaders stay responsive to changing circumstances. The TF700 is a versatile platform that can adapt to take advantage of new technologies and opportunities, while meeting many present needs.

~~~~~Public Fax has arrived.

The TF700 is the most complete solution to the needs of the rapidly growing public fax market. It provides high quality fax, jam-free operation and plain paper output in a convenient, self-service terminal.

-----Information Access is the key.

The TF700's self-instructing touchscreen interface encourages the general public to utilize the many information databases available.

~~~~~Word Processing is a plus.

The full-sized keyboard offers the business traveler the perfect solution to composing and printing a letter or even personalizing a greeting card.

.....Video Advertising works.

The TF700's high-resolution color monitor provides a powerful medium to deliver advertising messages. In addition, each video ad screen can be linked to a printed coupon or sales literature that is instantly printed and delivered at the touch of a button.

TF

THE PUBLIC COMMUNICATIONS TERMINAL
OF TOMORROW. . . FOR INDUSTRY LEADERS TODAY.

TouchFax

INFORMATION
SYSTEMS, INC.

15520 College Boulevard, Lenexa, Kansas 66219
Phone: (913) 599-6699 (800) 869-TFAX (8329) Fax: (913) 599-5588

Exclusive European Distributor: Landis & Gyr Communications (Switzerland) Corp.
Grand Pré 70, CH-1211 Geneva 16
Tel.: 022 733 55 00 Telefax: 022 733 52 19 Telex: 751 703

Best Available Copy

Exhibit No. 511

EXHIBIT

F

The quality of the TF700 Public Communications Terminal from TouchFax.

The demand for public communication services is growing. Many of the largest telecommunications companies in the world have seen the handwriting on the wall. Several industry leaders have already responded by selecting TouchFax as their product of choice.

In the new TF700, TouchFax has combined precision engineering and powerful functionality to create the industry's most advanced personal communication center. At the touch of a few buttons, the new TF700 can put anyone in touch with the world through an extensive menu of essential services including:

telephone; send or receive a fax; photocopying; word processing; and laser printing; and access to a growing network of information databases from Wall Street news to international sports scores.

Handset and Hookswitch are AT&T quality, delivering high performance and durability.

External Speaker gives clear audio feedback of busy signals, fax tones, or voice prompts.

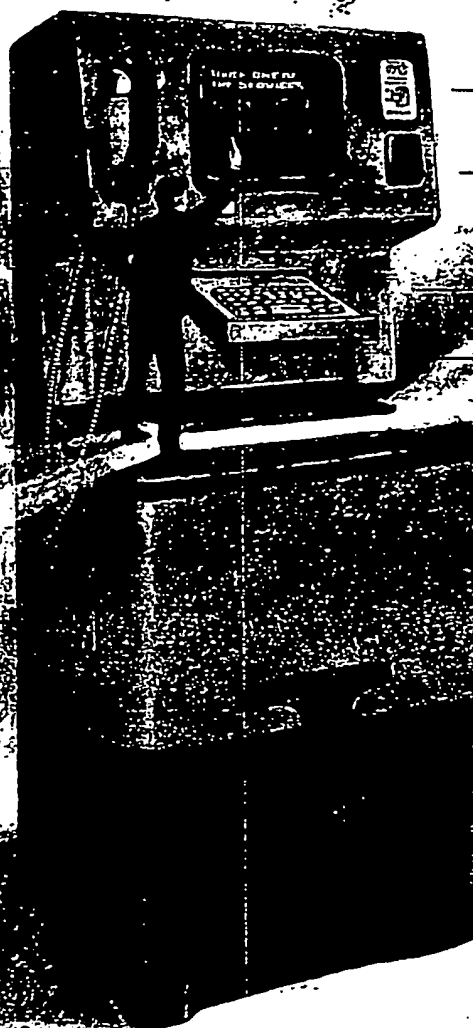
Access Door provides convenient access to internal components, extra paper and supplies.

Ergonomically Designed Cabinet with heavy duty steel construction comes in a variety of finishes. Custom colors are available.

INTRODUCING THE

TF

Public Communications Terminal



14" Color TouchScreen Monitor offers unrivaled ease of use, and displays information and ads in sharp, brilliant colors.

Credit Card Reader accepts major credit cards, phone cards, and can be programmed to accept custom cards.

Full-sized Keyboard extends for computer database access or word processing, and retracts when not in use.

Option Panel allows addition of floppy disk drive, optical card reader, laptop or modem connections.

300 DPI Flatbed Scanner delivers high resolution with jam-free, photocopier-like operation.

386 CPU with 40 megabyte hard drive, proprietary control interface and integrated fax and data/modem capabilities.

300 DPI Laser Printer offers crisp, high-resolution printing on plain paper and an optional 700 sheet paper tray.

Compact Footprint of just 24"W X 28"D lets the TF700 fit in almost anywhere.

TouchFax is a registered trademark. © 1991 TouchFax.

Touch

The Leader in Public Communications Systems

Now the information age is for everyone. The TF700 provides a friendly, touchscreen window to a universe of information available from on-line computer and fax information services. Never before has the public had easier access to such a wide range of printed information.

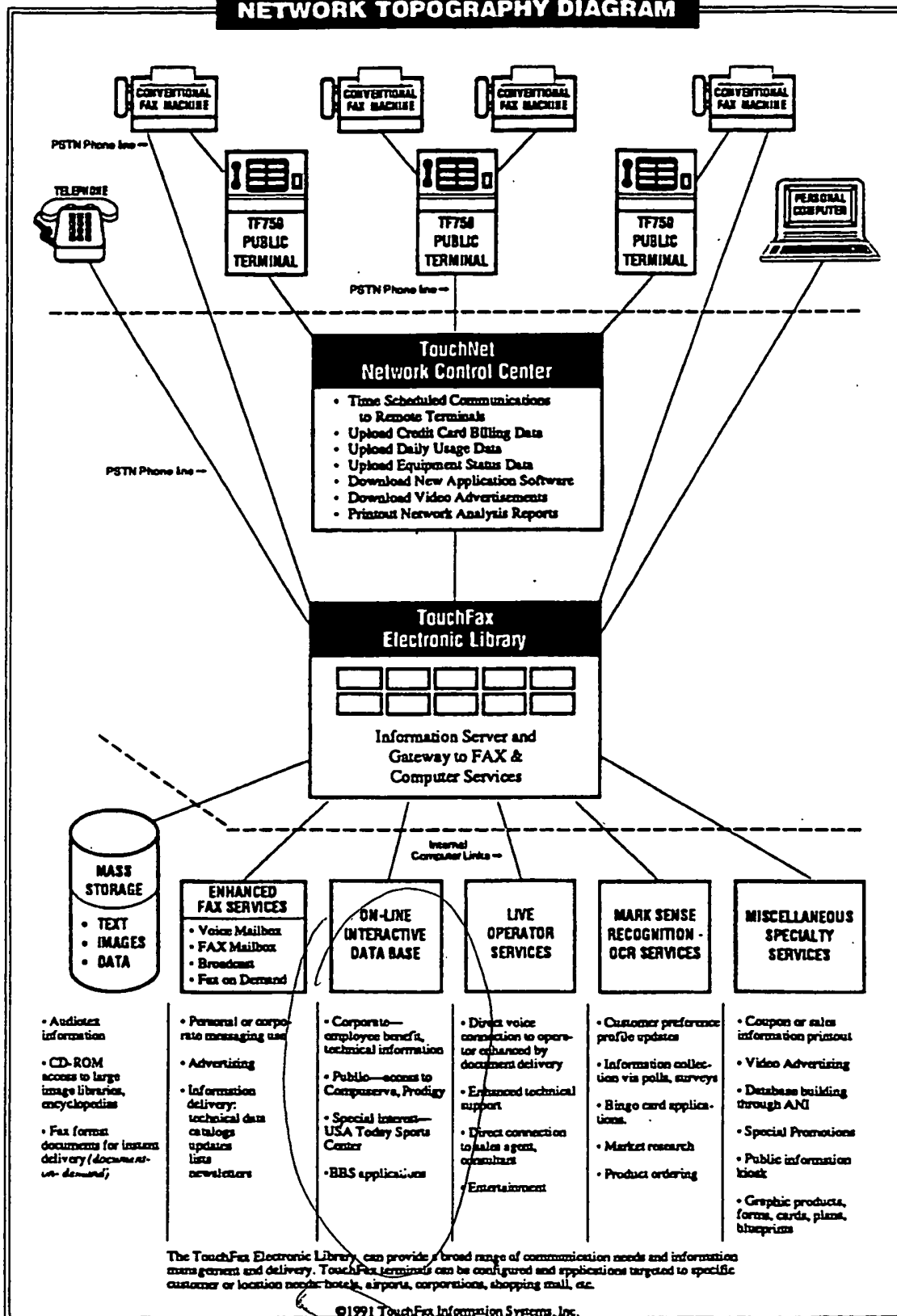
Best Available Copy

— Attachment D—

(7)

TouchFax

NETWORK TOPOGRAPHY DIAGRAM



Best Available Copy

ATTACH

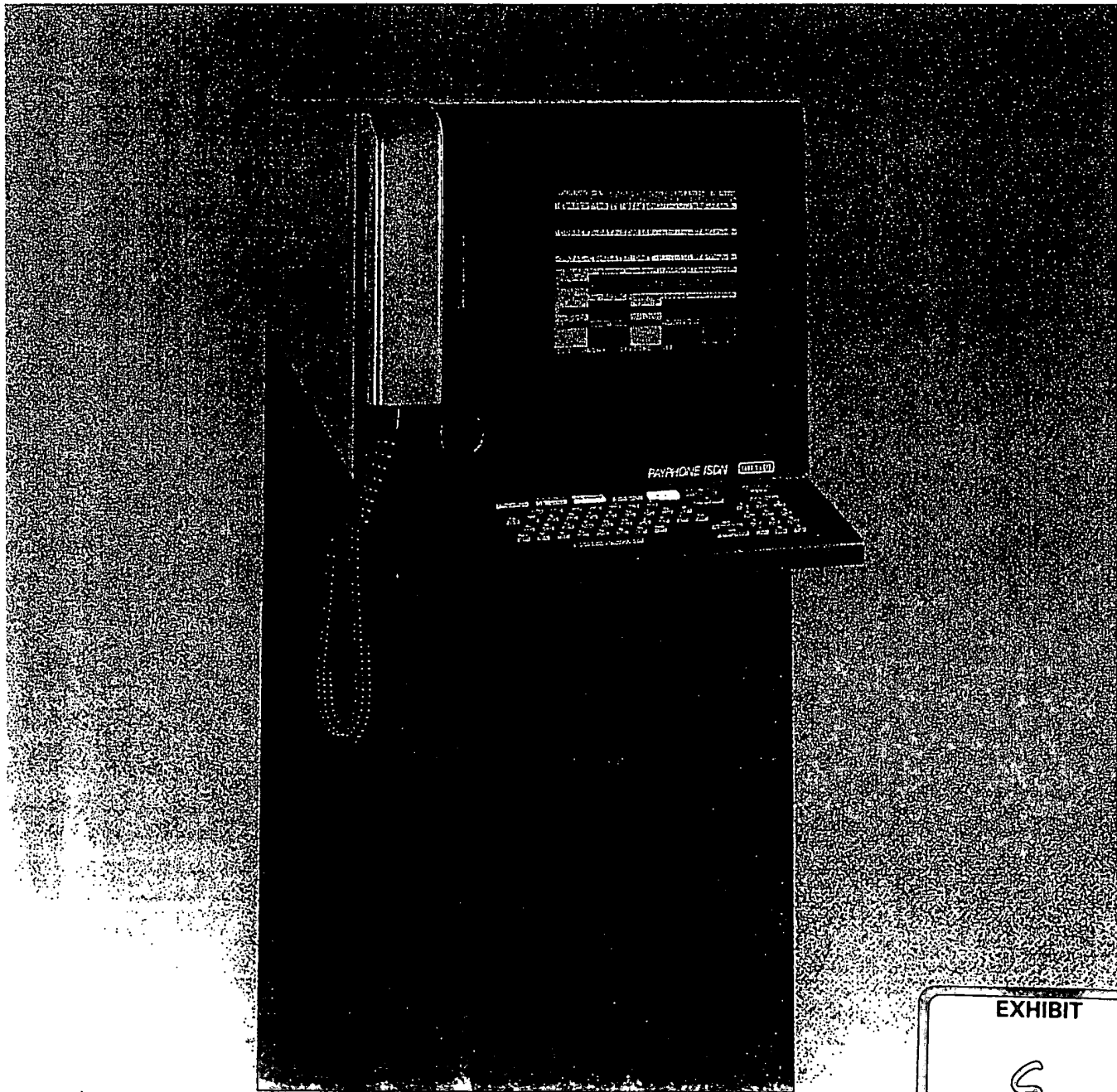
EXHIBIT
D

- Attachment E

LANDIS & GYR

ISDN console

Public telephone and telematic console

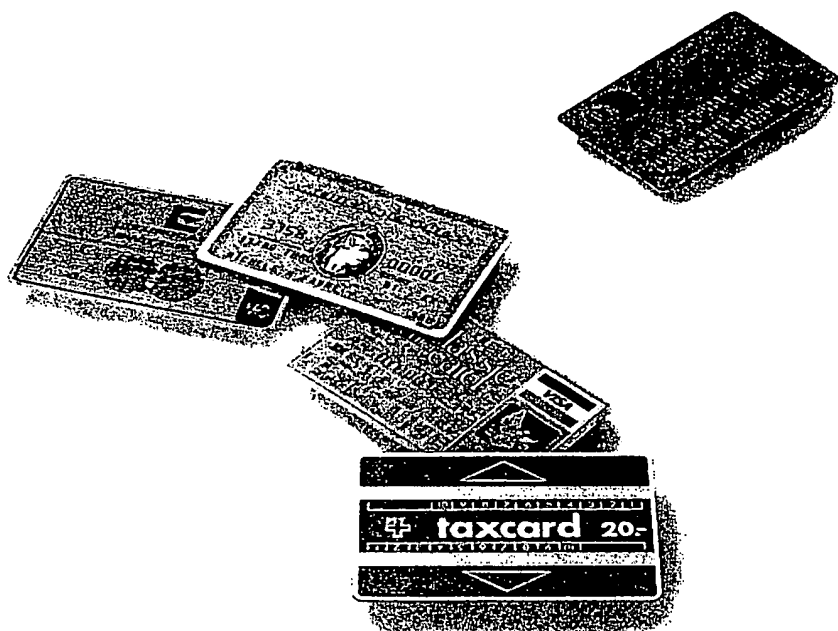


EXHIBIT

C

ALL-STATE INTERNATIONAL

- Attachment F -



- Access to various new services and information sources
- Possibility of accessing a system operator specific data base
- Practical means of payment by means of cards
- Possibility of connecting a portable computer

Motivated by its policy of continuous innovation in telephone equipment, Landis & Gyr presents an advanced public telephone and telematic console, which illustrates the extensive range of services offered and whose role is to promote modern means of communication in crowded public places.

The Landis & Gyr ISDN console enables the public to obtain access to the usual services and sources of information and to new services, all via the same terminal.

Means of payment

Any of the main types of cards currently in use may be employed, namely:

- The Landis & Gyr optically coded pre-paid value card,
- The «smartcard» (card with microprocessor chip) or
- The commercial magnetic credit card

For administration of calls made on credit, the Landis & Gyr console connects itself to a specific centralized system, in particular for the phases of authorization and, at the end of the session, for the collection of the relevant data.

Multiplicity of services offered

New services are offered to the user:

- Consultation of Videotex type data bases on the colour screen
- Possibility of connecting a portable personal computer to the telematic console by means of a special infra-red connector, thus providing the possibility of accessing specialized data networks.
- Increased help for the user by the display of instructions and menus on the screen, presented interactively and clear identification of the selections by means of special coloured keys.
- Digital telephone, providing a quality that is superior to that of a conventional analogue telephone together with a shorter time for putting the call through.

Videotex

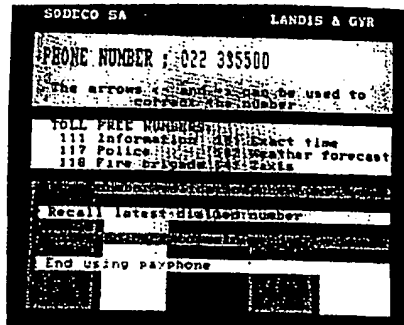
The user has no difficulty in accessing the Videotex services available to the general public (also called Minitel, Prestel and Bildschirmtex, depending on the country).

These services are selected by means of instructions entered via the keyboard using a syntax determined by well defined rules and the requested data are presented in the form of full pages in colour.

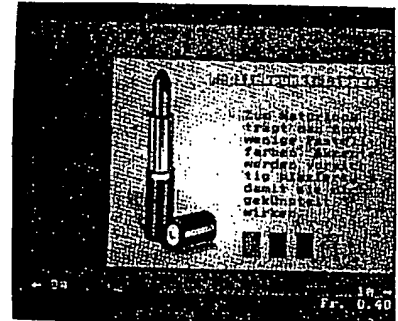
The various services already available include:

- Electronic telephone directory
- Electronic mailbox
- Telex transmission

- Timetables of means of transport
- Reservation of seats with certain airlines
- Reservation of hotel rooms, hire cars, places for cultural and sporting events
- Teleshopping
- Telebanking



Main menu — a colour is attributed to each choice; pressing the key of the same colour on the keyboard causes selection of the desired function



The Videotex standard enables pages with a high degree of graphics to be created.



Data base specific to the system operator

In addition to the Videotex data base, the user also has access to a specific data base, restricted to the users of Landis & Gyr ISDN consoles. This private data base, when it is installed, offers services restricted to a definite geographic region,

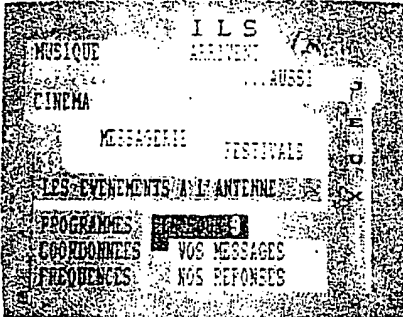
for example: nearest chemists, street directory, proposed route to reach a given address, nearest bus stops, etc.

An easily used source of local information is thus available to travellers and tourists.

Use of a portable personal computer

The Landis & Gyr ISDN console makes it possible to link up to a computer centre from a public place.

The services accessible from a portable personal computer are those that are currently accessible via the specialized data networks, termed packet switching networks or type X.25 networks.



Page for accessing the Videotex server of a local radio station

These services may be classified in two categories:

- Link up to a private central computer and use of the portable terminal as a remote terminal to transfer data or carry out any other operation on the central computer (e. g. transfer of the orders obtained during the day, from the memory of a commercial traveller's portable computer to the central computer of the company).
- Connection to value-added services available on host computers (e. g. private electronic mailboxes, reference library data banks).

Profitability

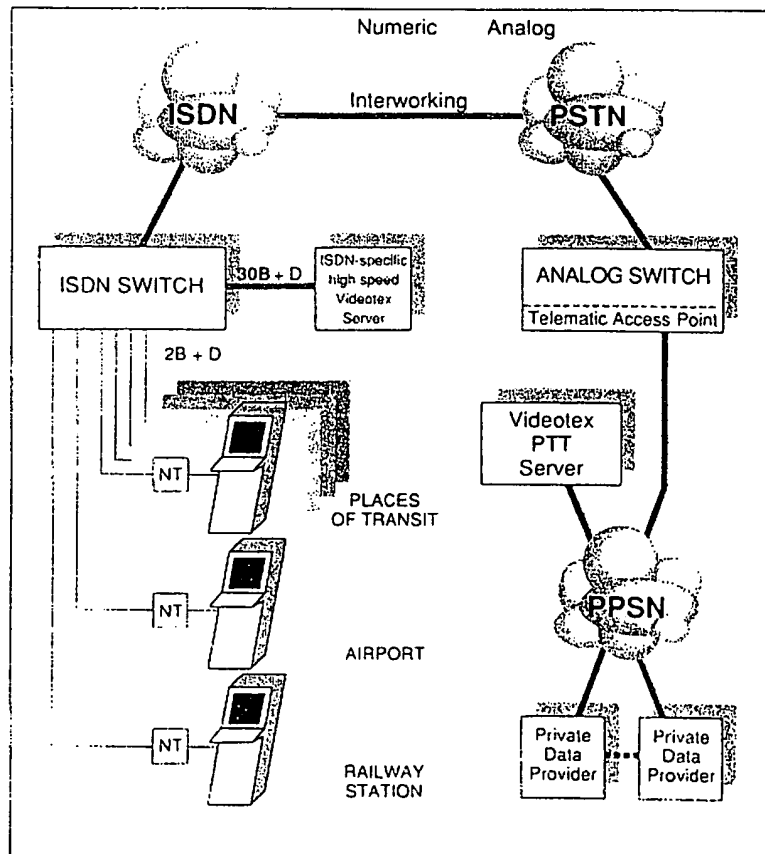
The operator of a system of Landis & Gyr ISDN consoles has considerable scope for making the investment profitable within a very short time:

- He may make a «private» data base service available to the public on a payment basis (value added service).
- He may also use the screen of the ISDN console for advertising purposes. It should be noted that when the screen of the Landis & Gyr ISDN console is not in use, which is the case in particular if the user is only making a voice communication, the operator may cause pages of advertising matter to scroll past on the screen. These advertising pages are generated by

the system operator at a distance and then loaded via the network. They may include a high proportion of graphics so as to achieve maximum visual impact.

Maintenance

Landis & Gyr has applied the concept of remote maintenance to its ISDN consoles. This concept has already proved its value in the range of conventional telephone stations (BTG Remote Management Systems).



ISC

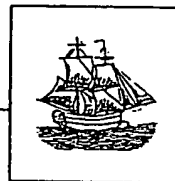
Put

- Access to the ISDN S bus, with possibility of use in a multi-point configuration
- Management of communication protocol on ISDN channel D (LAP-D and Layer 3, according to I.441 and I.451)
- During transmission of data on channel B, use of the X.25 protocol (LAP-B, Layer 3 X.25)
- Access to non-ISDN Videotext type information providers, by means of a TA a/b adaptor, installed as an option
- Once the possibility of user data transfer on channel D is provided, this service will be made available, in particular for administration of calls made on credit.
- Access to certain additional ISDN services, such as call back, multi-party conference calls, provided these services are available on the network.
- Multiple means of payment:
 - Landis & Gyr prepaid value cards
 - Cards incorporating a microprocessor chip («Smartcards»)
 - Magnetic commercial credit cards
- Installation on semi-protected public sites
- Overall dimensions: 49×36×130 cm
- 9" colour screen
- Supplied from the mains

**Technical characteristics of
the Landis & Gyr ISDN console**

Africa	Landis & Gyr, 9 av. Houdaille, 01-BP 8629, Abidjan 01, Côte d'Ivoire, Tel.: 32 63 79, Tx: 22 457, Fax: 326319
Austria	Landis & Gyr GmbH, Breitenfurterstr. 148, Postfach 9, A-1231 Wien, Tel.: 0222/84 26 26, Tx: 132 7 06, Fax: 222/84 26 26 313
Belgium	Landis & Gyr SA/NV, Av. des Anciens Combattants 190, Oud-strijderslaan 190, B-Bruxelles/Brussel, Tel.: 02/244 02 11, Tx: 65 630, Fax: 02/242 88 31
Denmark	Landis & Gyr A/S, Klausdalsprovej 1, DK-2860 Søborg, Tel.: (01) 69 46 00, Tx: 22285, Fax: (01) 69 49 49
Finland	Oy Landis & Gyr AB, SF-02430 Masala, Tel.: 90/29731, Tx: 12 10 39, Fax: 0/297 55 31
France	Landis & Gyr Sàrl, 16 Bd. Général Leclerc, F-92115 Clichy, Tel.: 1/47 56 57 00, Tx: 630893, Fax: 1/47 30 39 50
Germany	Landis & Gyr GmbH, Friesstr. 20-24, Postfach 600529, D-6000 Frankfurt 60, Tel.: 069/40020, Tx: 0417 164, Fax: 69/400 25 90
Great-Britain	Landis & Gyr Communications Ltd., Ebblake Industrial Estate, Verwood, Wimborne, Dorset BH21 6BB, Tel.: 0202/82 46 44, Tx: 418 341, Fax: 202 82 38 00
Ireland	Lake Electronic, Beech House, Greenhills Road, Dublin 24, Ireland, Tel.: 353-1-515422, Tx: 30542, Fax: 01/520 826
Italy	Landis & Gyr SpA, Divisione Commerciale, Via P. Rondini 1, I-20146 Milano, Tel.: 02/42481, Tx: 332 142, Fax: 2/48300773
Netherlands	Landis & Gyr B. V., Kampenringweg 45, Postbus 444, NL-2800 AK Gouda, Tel.: 01820/65 432, Tx: 20 657, Fax: 1820/32 437
Norway	Landis & Gyr A/S, Caspar Stormsvei 16, P. B. 6395 Etterstad, N-0604 Oslo 6, Tel.: 02/65 10 30, Tx: 78 346, Fax: 02/64 81 87
Portugal	Landis & Gyr LDA, Rua Filipe da Mata nr. 66-1, P-1600 Lisboa, Tel.: 01/76 93 82, Tx: 13 696, Fax: 01/764 203
South-East Asia	Landis & Gyr (S.E.A.) PTE LTD., 460 Alexandra Road 22-03, PSA Building, Singapore 0511, Tel.: 273 51 51, Tx: 55 782, Fax: 273 25 25
Spain	Landis & Gyr BC S.A. Batalla del Salado 25, E-28045 Madrid, Tel.: 1/467 19 00, Tx: 22975, Fax: 1/239 44 79
Sweden	Beving Elektronik AB, St. Eriksgatan 113A, Box 21104, S-10031 Stockholm, Tel.: 08/15 17 80, Tx: 10040, Fax: 336 863
Switzerland	Sodeco SA, 70 Grand-Pré, CH-1211 Genève 16, Tel.: 022/733 55 00, Tx: 751 703, Fax: 022/733 52 19
United States	Landis & Gyr, Inc., 8 Skyline Drive, Hawthorne, New York 10532, Tel.: 914/347 26 30, Fax: 914/347 26 41
Other countries	Sodeco SA, 70 Grand-Pré, CH-1211 Genève 16, Tel.: 022/733 55 00, Tx: 751 703, Fax: 022/733 52 19





THE INTERNET NAVIGATOR

SECOND EDITION

Paul Gilster

SCIENTIFIC & TECHNICAL
INFORMATION CENTER

FEB 25 1997

PATENT & TRADEMARK OFFICE



John Wiley & Sons, Inc.

NEW YORK • CHICHESTER • BRISBANE • TORONTO • SINGAPORE

- Attachment F -

Publisher: Katherine Schowalter
Editor: Paul Farrell
Assistant Editor: Allison Roarty
Managing Editor: Frank Grazioli
Copyeditor: Janice Borzendowski
Book Design & Composition: Editorial Services of New England, Inc.

Designations used by companies to distinguish their products are often claimed as trademarks. In all instances where John Wiley & Sons, Inc., is aware of a claim, the product names appear in Initial Capital or all CAPITAL letters. Readers, however, should contact the appropriate companies for more complete information regarding trademarks and registration.

This text is printed on acid-free paper.

Copyright © 1994 by Paul Gilster
Published by John Wiley & Sons, Inc.

All rights reserved. Published simultaneously in Canada.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.

Reproduction or translation of any part of this work beyond that permitted by section 107 or 108 of the 1976 United States Copyright Act without the permission of the copyright owner is unlawful. Requests for permission or further information should be addressed to the Permissions Department, John Wiley & Sons, Inc.

Library of Congress Cataloging-in-Publication Data

Gilster, Paul

The Internet navigator : the essential guide to network
exploration for the individual dial-up user / by Paul Gilster.
2nd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-471-05260-4 (acid-free paper)

1. Internet (Computer network) I. Title.

TK5105.875.I57G55 1994

384.3'3—dc20

94-9039
CIP

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1



The Internet Defined

The Internet is a vast, sprawling network that reaches into computer sites worldwide. By its very nature, this interlinked web of networks defies attempts at quantification. Some sources cite Internet penetration into over one hundred countries, with twenty thousand separate networks feeding into it containing more than 2.5 million host computers and twenty million users.¹ Other sources give higher user figures, citing fifteen million people in the United States and twenty-five million worldwide who have used the Internet.² Indeed, estimates about the Internet's growth are proliferating almost as fast as new host computers on the network.

Consider that by 1985, approximately one hundred networks formed the Internet. By 1989, that number had risen to five hundred. The Network Information Center of the Defense Data Network found 2,218 networks connected as of January 1990. By June 1991, the National Science Foundation Network Information Center pegged it at close to four thousand, and, as we've seen, connections have more than quadrupled since then. If we extrapolate based on current numbers, the Internet could reach forty million people by 1995, one hundred million by 1998. Its current growth rate is 100 percent yearly.

Couple that information with an estimated 120–150 million personal computers in use worldwide and you've created a situation with dramatic possibilities. Few of the desktop computers in the average home, for example, are networked together. But many home and business computer users would like to access the Internet's rich resources. The solution: a modem and a dial-up account.

Until recently, it was difficult to access the Internet on a dial-up basis, but the increase in Internet service providers has improved that situation. In the past year and a half, estimates John Eldredge of Performance Systems International, a major service provider in Reston, VA, the number of individuals connecting to the Internet by dial-up has increased from 50 to 80 percent.³ And

commercial providers such as CompuServe, GENie, and Prodigy have all made Internet mail access available. DELPHI and BIX have full Internet connections with access to all major services. Demand is intense. "We've seen an incredible response to our offering of full Internet services," says DELPHI general manager Rusty Williams. "It's been well received by current members and by other people looking for Internet service options—people in business, students, researchers, families."⁴ UNIX-based service providers tell much the same story of growth in the individual user market.

A BRIEF HISTORY OF THE INTERNET

The Internet's beginnings gave no hint that it would evolve into a publicly accessible network. Like many other great ideas, the "network of networks" grew out of a project that began with far different intent: a network called ARPANET, designed and developed in 1969 by Bolt, Beranek, and Newman under contract to the Advanced Research Projects Agency of the U.S. Department of Defense (ARPA).

The ARPANET was a network connecting university, military, and defense contractors; it was established to aid researchers in the process of sharing information, and not coincidentally to study how communications could be maintained in the event of nuclear attack. From humble beginnings—the ARPANET's founders originally contemplated letting only researchers log on and run programs on remote computers—the network grew. They soon added file transfer capabilities, electronic mail, and mailing lists to keep people interested in common subjects in communication.

But even as the ARPANET grew, other networks were under development, and it became clear that new methods of communicating would be necessary. As early as 1973, in an era of mainframe computing a decade before the desktop PC revolution took hold, ARPA, under its new acronym DARPA (Defense Advanced Project Agency)⁵ began a program called the Internetting Project. The goal was to determine how to link networks. Central to this concept of "internetting" is the need to overcome the different methods each network uses to move its information. When properly implemented, so-called *gateways* can be used to connect networks, passing traffic seamlessly from one to the other.

Finding the Right Protocol

Making internetwork links work requires the right protocol. In computer parlance, a *protocol* is simply a set of conventions that determines how data will be exchanged between different programs. Protocols specify how a network is to move messages and handle errors; using them allows the creation of standards separate from a particular hardware system. DECnet, for example, is a protocol used by networks running Digital Equipment Corporation computers; Novell, a familiar name in office networking, is another example of a protocol standard that allows computers to work together. Everything from the speed of the communicated data to the addressing schemes used to move individual message traffic is factored in the protocols used by a given network.

The Internet uses a protocol called *TCP/IP*, which stands for *Transmission Control Protocol/Internet Protocol*. IP is responsible for network addressing, while TCP ensures that messages are delivered to the correct location. These

powerful protocols were developed in 1974 by Robert Kahn, a major figure in ARPANET development, and now president of the Corporation for National Research Initiatives (CNRI), and computer scientist Vinton G. Cerf, now president of the Internet Society and vice-president of CNRI. Their pioneering work created the mechanisms by which the Internet could appear. In fact, if we are looking for a quick definition of the Internet, we can simply say that it is a network of networks that run the TCP/IP protocol suite.

If you will fall into the habit of thinking of the Internet as a metanetwork—a network made up of interconnecting networks—you will grasp the dispersed, decentralized nature of this enterprise. Around the world, connecting through special computers called *routers* and *hubs*, computers from different manufacturers running a whole range of operating systems can communicate with each other. Digital Equipment Corporation minicomputers can talk to Sun Microsystems workstations. Standalone PCs and Macintoshes can talk to Intel machines on office networks; they, in turn, can reach large-scale regional networks, which connect their high-speed circuits over a grid called a *backbone*.

You should realize that TCP/IP is not the only protocol for connecting a variety of different networks. The Internet is actually becoming a multiprotocol network, integrating other standards into its operations. Chief among these is *Open Systems Interconnection*, or *OSI*. Developed by the International Organization for Standardization (ISO), OSI has been widely embraced in Europe, where the momentum of TCP/IP has been less overwhelming than in the United States. Systems using other protocols likewise connect through gateways to the Internet; BITNET, for example, is a network that communicates using its own standards, but which is at least partially accessible to the Internet through such linkages. And the UNIX-to-UNIX Copy Program (UUCP) network connects thousands of computers by dial-up telephone lines; its electronic mail destinations are likewise available to the Internet user.

THE INTERNET VS. COMMERCIAL ONLINE SERVICES

Commercial on-line services like GENIE and DELPHI take an entirely different approach to distributing information. If you have been a user of one or more of these systems and now want to dial into the Internet, you must master the differences between the two models. CompuServe, for example, manages its huge user base through a centralized set of computers. When you call into local telephone numbers around the world to gain access to the system, you are connecting ultimately to a centralized set of resources. More telling is the fact that the commercial operation is managed from the top as a business. There is a company behind CompuServe, just as there is behind BIX and DELPHI.

Not so with the Internet, which has grown up free of both the advantages and problems caused by management from the top. This is why, when you connect to the Internet, you must choose from among a wide range of service options (we examine these in the next chapter). No central sign-up facility exists for the Internet; rather, you make contact with a service provider who allows you to gain access to the network through local computers. The consequences of this decentralization on network resources are likewise strong. What you find on the Internet depends on the decisions of thousands of system administrators around the world. No single company has made an

overall decision about network design, which makes mastering the search tools we will examine later a critical part of your explorations.

What Is Packet Switching?

Consider the great problem of networking diverse computer systems. You would like to move a stream of data from one computer across a communications link to others. How does the data get there, and how can we ensure that when it does so, it arrives in precisely the condition it was when it left? Can we be sure that our addressing scheme works, and that, in the event of a network failure, our data will be rerouted so that it reaches its destination? These are problems that network protocols must address. The Internet uses a scheme called *packet switching* to solve them.

Packet switching takes data and breaks it into parts, giving each segment a header with the necessary routing information. Computers on the network examine these headers and move the data packet along to the next site. Each time, the packet gets closer to its destination. A major bonus of packet switching is that the computers routing this data can select alternate routes when a given link fails (remember, this system was developed by researchers who were considering how to ensure reliable communications when parts of the network were destroyed in a nuclear conflagration). Another bonus: The computers at either end of a packet network connection can operate at different speeds; the network itself acts as a buffer to adjust for the difference.

You may also have run across the term *circuit switching*. Think of one-to-one contact here. If you set up a data session between two computers using ordinary telephone lines, placing a call whenever you need to move data, you would be using circuit switching. The method is useful when you need to connect computers to transfer large amounts of information. But because it requires you to set up a circuit dedicated to an exclusive use each time you use it, circuit switching is unable to handle the massive amounts of diverse data carried by the Internet. Complex applications requiring contact with multiple computers must rely on the packet switching model.

The Internet Emerges

In 1993, the U.S. Defense Communications Agency mandated TCP/IP for all ARPANET hosts. In doing so, it established a standard by which the Internet could grow. From this point forward, it would be possible to add more gateways, connecting more networks, while the original core networks remained intact. Most people date the true arrival of the Internet at 1983, the year when the original ARPANET was split into MILNET—to be used for military communications—and the ARPANET—for continuing research into networking. But, as early as 1980,⁶ CSNET, a network linking computer science departments in several states, became the first autonomous network DARPA allowed to connect to the ARPANET.

CSNET eventually merged with BITNET in 1989. The ARPANET itself was decommissioned in June 1990, its functions absorbed into the broader structure of the Internet. But the two networks had established a workable principle: let networks communicate by a set of protocols, with new networks being added to an ever-growing metanetwork communicating through gateways. That principle

depths of the world's fastest supercomputers to 1200 bps dial-up modems moving electronic mail traffic into some of the world's poorest countries. Clearly, a directory of all its constituent networks would be a massive volume which would quickly pass out of date. Users interested in tracking down network structure will, however, be interested in Tracy L. LaQuey's *The User's Directory of Computer Networks* (Digital Press, 1990) as well as John S. Quarterman's *The Matrix* (Digital Press, 1990); both are excellent starting points. And anyone seriously attempting to monitor network growth will learn that an active on-line presence is critical.

The Big Three Internet Applications

As Douglas Comer points out in his *Internetworking with TCP/IP. Vol 1: Principles, Protocols, and Architecture*, what you as an end user see of the TCP/IP protocols is a set of application programs that enable you to use the network to good advantage.¹² You and I don't need to know the intricacies of how TCP/IP functions, though if you're curious, there's no better or more respected guide than Comer's work. But running the programs themselves is not difficult, as we'll see.

Users of dial-up computer services, like users of bulletin board systems (BBS) and commercial on-line services, have come to expect certain capabilities from their providers, which the Internet provides in its own way through TCP/IP.

Here is how the Internet delivers these basic functions.

ELECTRONIC MAIL

Electronic mail is the most elementary service, and for many users, the most useful. Many people on the Internet have used nothing but electronic mail and still find the network indispensable. You can send messages to one or more people, deliver text files, retrieve information by automated computer programs like LISTSERV (through a gateway to BITNET), and more. While access to all three of the major Internet services is vastly preferable, it's possible to do quite a lot with electronic mail alone. A good thing, too, for aside from DELPHI and BIX, the only major on-line services with a full-fledged Internet connection, there is only limited access to the Internet from the other commercial services. That means, as we'll see in Chapter 3, you have three choices:

1. Learn to use the Internet through mail alone (Chapter 8 shows you how much you can do with such a connection).
2. Use DELPHI or BIX's full-service connection.
3. Get an account with one of the full-service dial-up providers discussed in Chapter 3 (more on these options there).

Ironically, in the early days of the ARPANET, electronic mail was considered an insignificant add-in to network capabilities. No one anticipated the high volume of traffic that began to flow as scientists exchanged ideas with geographically distant colleagues. Today electronic mail is taken for granted, from small companies with office networks to giant corporations linking remote offices worldwide. Its growth has been just as strong on the commercial networks, many of whose members maintain accounts solely for the e-mail connectivity they provide.

FILE TRANSFER

Moving files between computers is one of the handiest features of the networking revolution. If you can find something you can use—and if it's made publicly available, as are thousands of computer files on the Internet—you can transfer it to your computer. The process is called *file transfer protocol*, or FTP. You access documents made available to the public through a procedure called *anonymous FTP*. This procedure allows you to log on to remote computers and use the resources in directories the administrators have made available to the public. Anonymous FTP will be a major tool as we retrieve files and build an Internet library later in this book.

With FTP procedures, the Internet gets challenging indeed. Instead of consulting a single library source, as on CompuServe or GEnie, for a catalog of files, you are faced with thousands of computer sites offering programs and text files. To track down the program you need easily, you should learn about the access tools we'll discuss later. With them, you can locate programs, then use FTP to move them from the source computer to your service provider's computer at high speed, and subsequently download them to your own machine.

REMOTE LOGIN

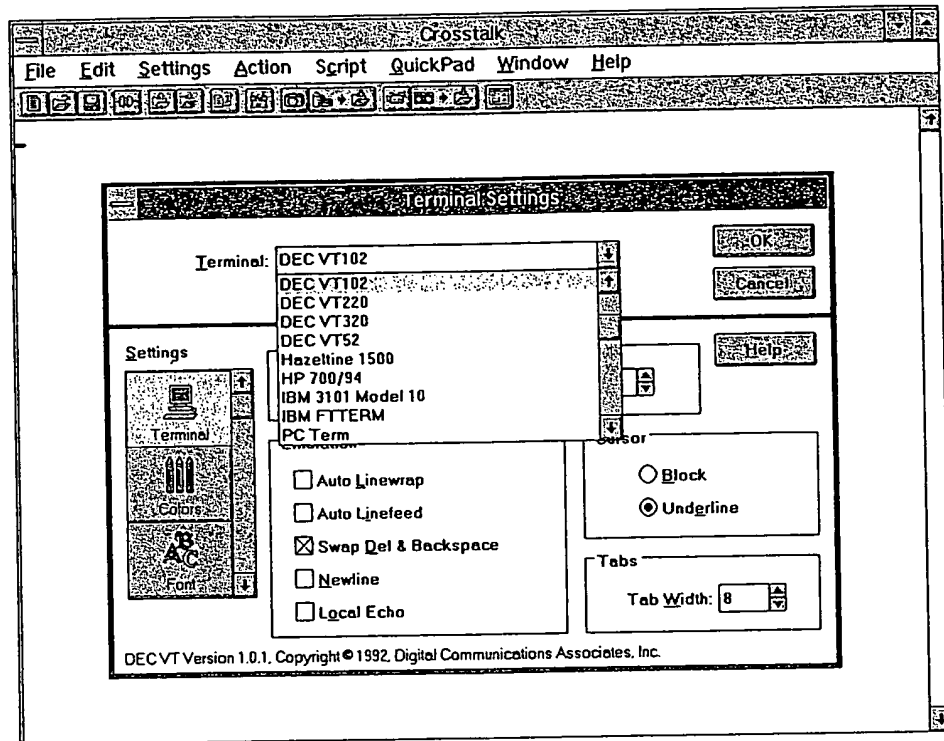
Remote login, otherwise known as Telnet, provides the ability to connect to a remote computer and work with it on an interactive basis. Again, the Internet opens the doors to a worldwide computing environment, on many of whose connected machines are services, databases, and other resources that can be examined and manipulated. By using Telnet, you can log onto the library catalogs of distant universities, look for information about everything from the formation of distant galaxies to recipes for potato soup, and examine Supreme Court decisions or the lyrics of popular songs. All the while, your computer will act as a terminal of the remote computer, which will respond to your command. In many cases, menu-driven systems at the other end make interactive sessions intuitive, but some systems are considerably easier to work with than others.

Note that when the network called "the Internet" is referred to in print, it always has a capital I. But you may also see abundant references, if you prowl your bookseller's shelves for computer books or read the computer press, to general terms such as "internets," "internetting," and "internetworking." Remember that TCP/IP can pass information among computers that aren't on *the* Internet. Your company, for example, might have local area networks in a number of sites. At some point, it would make sense for management to link those LANs together. One way of linking them is through TCP/IP. Your company would have established an *internet*, but you're not on *the Internet* unless you decide to be.

Public Packet Switching Networks

We have already discussed packet switching, and how it breaks messages into segments, each of which contains the necessary addressing information to ensure safe delivery. The ARPANET was the first major packet-switched network, running on an experimental basis for the use of DARPA contractors and not open to the general public. But as a dial-up modem user, you have probably encountered another form of packet switching, as used by networks like BT Tymnet or SprintNet. These public networks allow you to contact distant computers with a local telephone call; they then route your computer traffic to the appropriate destination.

Figure 3.1
Crosstalk for
Windows, terminal
emulation choices
from the Settings menu.



SIGNING ON—A PERSONAL ODYSSEY

Commercial access to the Internet has improved so dramatically in the past two years that newcomers will be startled to learn that there was a time when the process was excruciating, although many early treatments of the subject made it sound like a snap. "Need access? Just ask your system administrator," they blithely said, assuming you wouldn't ask if you weren't already working on a network in the first place. And indeed, if you were already on a network, the advice was sound. Many people to this day don't realize they can connect through their work site and that, in such cases, a simple request is usually enough to get them up and running.

But it was a different story for anyone who was trying to log on by modem from a standalone computer. For me, logging on to the Internet became something of a crusade, deepening into obsession as I continued to run into a stone wall. Several years ago, I made the mistake of asking this question: "I work out of a home office. I don't have Internet access and I don't have a system administrator. What do I do?" I asked people in my area and looked for answers on various on-line services. I peppered local bulletin boards for advice and called computer gurus in Research Triangle Park, pestering some poor souls for months.

The result? "Try the universities," some said. I called Duke, UNC, North Carolina State; access there was restricted and no one I spoke with knew how to get it. Maybe if I was a student. Unfortunately, my years at UNC had ended in the mid-1970s. "Call some of the big corporations," I was told. "Someone out there might be able to get you an account." I didn't know what I was doing, but

I began to make these calls. Most people didn't know what I was talking about. Those who did seemed incredulous that I would ask. "Network connections are private," they said.

Network connections private? If that doesn't give you something to think about, what does?

The Internet is not CompuServe or Prodigy. Lacking any central organization, the network has no billing address. You can't make a phone call to a network office and say, "Sign me up." You'll also get confused by the plethora of possibilities some of the people who are already on the network will tell you about. "Do you want a full connection?" they'll ask, and you reply, "Sure," not understanding why you would want anything else. "The best we can do is SLIP," you may hear. SLIP? What does it mean? And why do these people I'm talking to have nothing better to offer? Is SLIP some kind of restricted access?

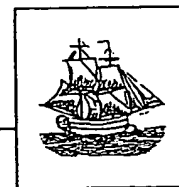
It wouldn't be until CONCERT-CONNECT came along that I made my real plunge into the Internet. CONCERT-CONNECT was a service provider which, among other options, made possible local dial-up access to the Internet. It brought order into the North Carolina Internet scene by offering a flat rate per month, allowing you to log on to the computers at MCNC (formerly the Microelectronics Center of North Carolina, now known solely by its acronym, as are many computer organizations). The flat rate was attractive, as were the services; not just USENET newsgroups, but FTP and Telnet as well; not just electronic mail, but the whole panoply of features that make the Internet so fascinating.

Today, CONCERT-CONNECT is gone. In its place are a growing number of Internet service providers, each offering dial-up access. Many also offer more advanced forms of network connection, including the aforementioned SLIP (which we'll discuss in this chapter), and other forms of direct links all the way up to high-speed dedicated T1 and T3 lines. My new service provider is Interpath, a division of Capitol Broadcasting Corp., here in Raleigh. Interpath is representative of the new breed of service provider, offering network connections to a great variety of customers from individual home users to the largest businesses.

What a change. In every state, service providers are springing up; indeed, Internet access is becoming a growth industry, bidding fair to create a price war that will be followed by an inevitable period of consolidation. For you, the individual or small business user, the good news is that prices are dropping across the board. CONCERT-CONNECT once charged \$175 per month for SLIP access; Interpath is now offering comparable service for \$37.50, and regular dial-up access is cheaper still. If it's a full-service access provider you're looking for, finding one will keep getting easier. No provider in your area? There will be soon.

Even more options are appearing from the ranks of the commercial on-line services like CompuServe and DELPHI. In fact, all of the major on-line services now offer some form of Internet connectivity, even if only a gateway that allows you to send and receive mail to and from the Internet. DELPHI and BIX have moved aggressively to open full-access provisions. America Online is beginning to widen its existing mail-only gateway with a host of new services including USENET newsgroups and access to the superb Internet interface and display tool called **Gopher**. Watch for announcements from the other commercial services; Internet access is now the hottest ticket in town as the networks grow together into a true global matrix.

We will work our way up the access ladder to show you what options are available. If you are already on the Internet, you won't need to read the following



Electronic Mail as a Gateway to the Internet

File Transfer Protocol and electronic mail are both key components of Internet connectivity, but what do you do if you only have an Internet mail connection? After all, with the exception of DELPHI, BIX, and America Online, the major commercial on-line services offer only mail connectivity. Fortunately, your on-line mailbox with a commercial provider like CompuServe or GENie can become a true gateway into the Internet. You won't be able to accomplish everything—in particular, Telnet simply can't be managed by mail alone—but if you are looking for files, you'll be pleased to know you can use electronic mail to retrieve them, without needing to employ FTP procedures yourself.

This chapter is devoted to people with accounts on the CompuServes and GENies of this world. Let's be clear on this: The optimum connection for a dial-up user is a full-access account with an Internet service provider, because it gives you the ability to use all three key Internet protocols—e-mail, FTP, and Telnet. But maybe you're hoping to shop around on the Internet first, to see what's available. Or perhaps you use CompuServe daily and would like to streamline your operations, running everything through your account there. Whatever the case, if you need to transfer files by mail, you can do it. The solution is workable, and while it's not exactly elegant, it does what you want it to do.



What You Need: A Background Document on Internet Faxing

The Document: FAQ: How Can I Send a Fax from the Internet?

How to Get It: The document is posted regularly on the USENET news groups `alt.internet.services`, `alt.online-service`, `alt.bbs.internet`, `alt.answers`, and `news.answers`. You can also receive new editions automatically by sending mail to this address: `savetz@rahul.net` asking to be added to the distribution list.

FINGER BY MAIL

finger is a program we discuss in Chapter 14 which allows you to retrieve information about users and, in some cases, about a wide variety of information such as earthquake updates or popular music. Normally, **finger** is run as a program on your UNIX service provider's computer. However, you can also use electronic mail to send and retrieve the results of **finger** queries. To do so, send e-mail to:

`b.liddicott@ic.ac.uk`

In the **Subject:** field, put this command: `#finger user@site` where `user@site` is the address you want to reach. You will find a list of potential **finger** sites in Chapter 15's directory.

Suppose, for example, that you want to retrieve NASA headline news. The address is `nasanews@space.mit.edu`. Your e-mail request would then read:

`#finger nasanews@space.mit.edu`

placed in the **Subject:** field of the message. Sending this, you will shortly receive an update on NASA press releases.

SENDING ELECTRONIC MAIL TO OTHER NETWORKS

If you have any doubts that Internet electronic mail opens out to networks across the world, consider the evidence of John J. Chew's *The Inter-Network Mail Guide*, available on the Internet both as a posting in various USENET newsgroups and also by download with anonymous FTP. Chew tracks the ways in which the various commercial providers maintain links to and from the Internet, and his list is growing with each new posting. A glance through it reveals linkages to such varied providers as Geonet Mailbox Systems, BIX, GreenNet, KeyLink, PeaceNet, SprintMail, and AppleLink, to name literally but a few. Chew's list will come in handy, and I advise you to get a copy.

Now you will learn how to send mail from the Internet to addresses at the major on-line services.



What You Need: A List of Network Interconnections

The Document: **Inter-Network-Mail Guide** by John Chew

How to Get It: Through anonymous FTP to **ftp.msstate.edu**. The directory is **pub/docs**. The file name is **internetwork-mail-guide**. You can also keep up with changes to this document by monitoring the USENET news groups **comp.mail.misc** and **news.newusers.questions**.

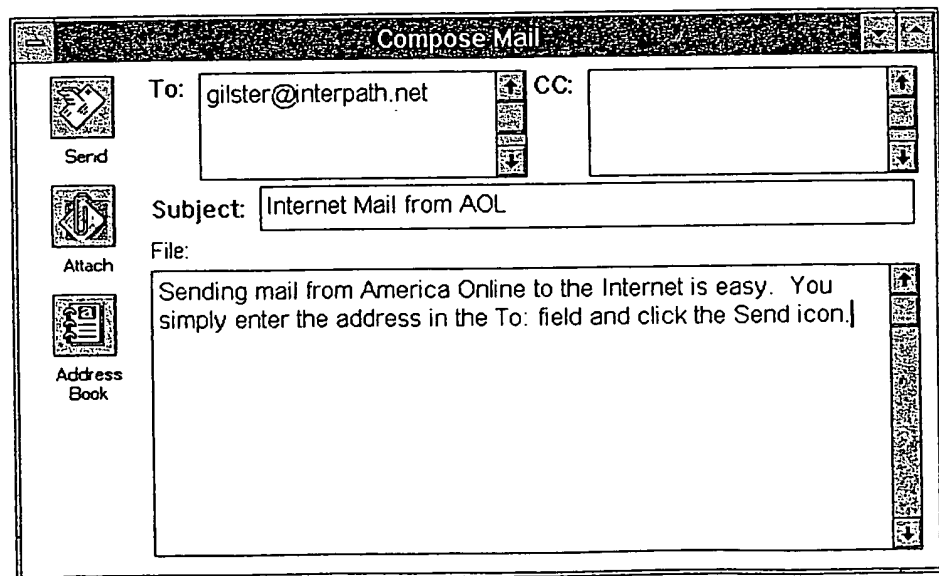
America Online

To send mail from the Internet to America Online, the syntax is **username@aol.com**. The user name should be all lowercase, with spaces removed.

Outgoing messages cannot be any longer than 32k. On the PC version of America Online, incoming mail cannot be any longer than 8k, which effectively prevents your using this service for **ftpmail** file transfers. On the Mac version of America Online, as well as the Apple II version and PC-Link, incoming mail cannot be any longer than 27k. All characters except newline and printable ASCII characters are mapped to spaces. Users are limited to seventy-five pieces of Internet mail in their mailbox at a time.

To send mail from America Online to the Internet, simply enter the Internet address and write your message. Figure 8.19 shows the process in action.

Figure 8.19
Sending a message to
the Internet from
America Online.



BIX

To send mail from the Internet to BIX, the syntax is *username@bix.com*. To send mail from BIX to the Internet, enter the Internet address preceded by **to** at the **Mail:** prompt. The following is an example of a message being sent from BIX to the Internet:

```
Mail:to gilster@interpath.net
Enter subject: Mailing from BIX
Enter text. End with '. <CL>
```

```
This message is to test BIX's connections to Internet e-mail.
```

```
send/action:send
Sending..Memo 76679 sent
```

There are no size restrictions on BIX messages to and from the Internet, and no monthly or per-message fee for Internet mail. You can move up to 10MB per calendar month (in both directions, to and from the Internet), without any additional charges. Beyond that, the charge is \$1.00 per 100k transferred. Messages can be up to 0.5MB in length in either direction; longer messages may be truncated.

CompuServe

To send mail from the Internet to CompuServe, the syntax is *usernumber@compuserve.com*. CompuServe user numbers contain commas, which must be changed to periods when you send from the Internet. Thus 12345,6789 becomes 12345.6789. To send me a CompuServe message, for example, you'd send to *73537.656@compuserve.com*.

To send mail from CompuServe to the Internet, as just shown, lead off the address with **>INTERNET:** Sending a message to **ftpmail**, then, requires the address:

```
>INTERNET:ftpmail@decwrl.dec.com
```

DELPHI

To send mail from the Internet to DELPHI, the syntax is: *username@delphi.com*. To send mail from DELPHI to the Internet, use the word **internet** followed by the recipient's name (with no spaces in between) enclosed in quotes. On DELPHI, to send a message to **ftpmail**, for example, you would address it to **internet"ftpmail@decwrl.dec.com"**. The following is a sample message from Delphi to the Internet:

```
MAIL send
To:      internet"gilster@interpath.net"
Subj:    Test Message
Enter your message below. Press CTRL/Z when complete, or CTRL/C to quit:
Checking the DELPHI connection to the Internet.
^Z
```

GEnie

To send mail from the Internet to GEnie, the syntax is **username@genie.geis.com**. To send mail from GEnie to the Internet: After entering the Internet address, you are prompted for additional GEnie addresses, copies, and a subject line. You can then enter your text. Figure 8.20 shows a GEnie message to an address on the Internet as it is being composed. GEnie's Internet mail services cost \$3.00 per hour.

MCI Mail

To send mail from the Internet to MCI Mail, the syntax is: **username@mci-mail.com**. MCI user names should have spaces removed. Thus **Sam Spade** becomes **Sam_Spade@mcimail.com**. Conversely, it's possible to use an MCI user number. If Sam's number is 123-4567, simply remove the dash. Thus **1234567@mcimail.com**. If there happens to be more than one Sam Spade in the MCI directory, you can reach the desired party by sending to:²

Sam_Spade/1234567@mcimail.com

To send mail from MCI Mail to the Internet, use the EMS option. Here's how to do it:

- At the TO prompt, type recipient's name and the word EMS in parentheses.
- At the EMS prompt, type **INTERNET**.
- At the MBX prompt, type the recipient's Internet address. Note: If the Internet address exceeds eighty characters in length, you must split the

Figure 8.20
Sending a message to
the Internet from
GEnie.

```
Enter Destination GEnie Address or C/R to continue.
?

Would you like to receive a copy of the message? (y/n) ?n

Enter the subject of your Internet message (max 30 characters) or C/R for no sub
ject:
<----->
Mailing from GEnie
```

When you see the prompt, 1>, enter your message.
When you have finished entering your text, use the *S,
to send the Internet message. Use *X to exit without sending.

Enter Internet text:

Queue#	Item	From	Length	Sent	Subject
1	6239343	GENIE.MQMT	268	93/05/27	New Pricing Effective July 1st

1>GEnie prompts the user through the mail process, so sending mail to
2>the Internet is relatively simple. You will be prompted for additional
3>addresses for your message, asked if you'd like a copy of it, and given
4>space to enter a subject line.

address into multiple MBX lines. The split should occur at one of the following characters: @ ! %.

- Only one Internet mailbox may be used with an individual TO or CC recipient.
- Complete the mailing procedure as usual.

Figure 8.21 shows an example of sending a message to an Internet address from MCI Mail.

Prodigy

Prodigy is the huge commercial service created by IBM and Sears. To send mail from Prodigy to the Internet, you will need a program called Mail Manager. Jump to *About Mail Manager* while on-line to learn how to download it.

To send mail from the Internet to Prodigy, use the Prodigy user ID followed by the domain name. Thus, to send mail to klbc98x, you should address the message to klbc98x@prodigy.com.

MAILING LISTS AND ELECTRONIC JOURNALS

A huge variety of mailing lists is available to people with electronic mail access to the Internet. So much is available here that it would make little sense

Figure 8.21
Sending a message to
the Internet from MCI
Mail.

```

EMS:      INTERNET
      EMS  376-5414 INTERNET                      NRI                      Reston

Enter recipient's mailbox information.

MBX:      mike_banks@bix.com

If additional mailbox lines are not needed press RETURN.

MBX:

TO:        Mike Banks
          EMS: INTERNET / MCI ID: 376-5414
          MBX: mike_banks@bix.com

Is this address correct (Yes or No)? y

CC:

Subject: MCI Mail Check

Text: (Enter text or transmit file. Type / on a line by itself to end.)

Mike:

Please let me know if this message gets through OK.  It's routed to
your BIX account via MCI Mail.

Thanks!

Paul

```

internet

The Magazine for Internet Users ■ Nov/Dec 1994 ■ \$4.95
Canada \$5.95

WORLD™

CHATTER

• NEWSGROUPS

• VIRTUAL ENCOUNTERS

• DIGITAL RIGHTS

• SUPERNATURAL SITES

CHATTER

5-48787-Mecklermedia

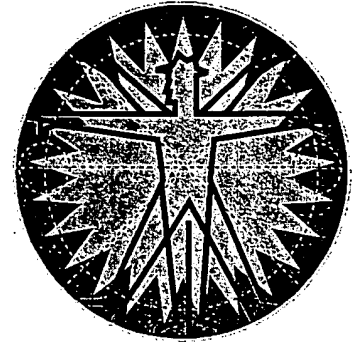


Display Until December 15, 1994

Attachment G

Departments

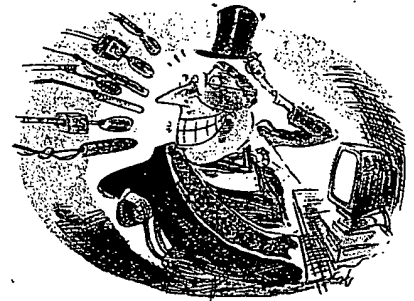
LETTERS TO THE EDITOR	4
FROM THE EDITOR by Michael Neubarth	6
INTERNET NEWS	10
INTERNET BOOKSHELF Edited by David Dean	104
POINTERS	106
INTERNET FORUM	108
INDEX TO ADVERTISERS	112



76

c o n t e n t s

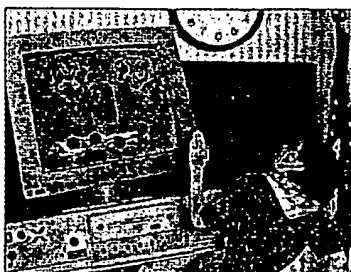
99



50

Columns

THE SURFBOARD by Andrew Kantor and Eric Berfin	14
NET PROFITS: Power Rap by Christopher Locke	18
INFO HOUND: Herbs, Ella, and IRC by Dave Taylor	22
ENTRY LEVEL: Learning the Ropes: A Usenet Style Guide by Andrew Kantor	24
DIVING INTO THE INTERNET: Internet: Going South by Joel Snyder	94
FOUND IT ON THE NET: Work or Play? by Linda J. Engelman	96
THE INTERNET CURMUDGEON: Painting the Right Picture by Daniel P. Dern	99
ARTIST AT LARGE: Going Graphical (There's No Place Like Home Page) by Kenny Greenberg	102



86



64



18

Features

USENET: Past, Present, and Future by Dave Taylor	26
SECRETS FROM WITHIN USENET by Kevin Savetz	31
NEWSREADERS: An "n" User's Guide by Robert Sanchez	34
NEWSGROUP CULTURE by Robert Sanchez	38
DOUSING FLAMES by Kristina Harris	42
VIRTUAL ENCOUNTERS by Thomas Barrett & Carol Wallace	45
THE EX FACTOR by Brad Stone	50
GABFEST—INTERNET RELAY CHAT by Aaron Weiss	58
ALL THE NETNEWS THAT FITS Interview with Brad Templeton of ClariNet by Jeff Ubois	64
SERVING ADS by Joseph Raben	70
ANATOMY OF LISTSERV by Karl Signell	76
DIGITAL RIGHTS by Jean Erhard	78
ALIENS AMONG US by Andrew Kantor	82
WHY TEACHERS FEAR THE INTERNET by Crawford Kilian	86
SUPERNATURAL, STRANGE, AND SINISTER by David R. Noack	88

COVER ILLUSTRATION BY TERRY ALLEN

EDITOR-IN-CHIEF
Michael Neubart
neubartb@mecklermedia.com

Associate Editor
Andrew Kantor
ak@mecklermedia.com

Art Director
Kalbryn Del Vecchio
Production Manager
Lauren Johnson

Editor, Internet Bookshelf
David Dean
dean@nyu.edu

Regular Contributors
Eric Berlin, Susan Calcarl, Daniel P. Dern, Peter Deutsch, Kenny Greenberg,
Mike Godwin, Elizabeth Lear-Neuman, Keith Porterfield, Kevin M. Savetz,
Joel Snyder, Dave Taylor, Jeff Ubois

Production Director
Sandra K. Huggard

Vice President of Consumer Marketing
Paul Stanton

Circulation Manager
Michael Hicks

Assistant Circulation Manager
Susan Lynch

Subscription Manager
Bonnie Miller

Director, Internet Development & Communications
Paul Gudelis

Internet Systems Manager
Andrew H. Sbriver

Internet World Conference Director
Nancy Melin Nelson
nancy@mecklermedia.com

PUBLISHER
Paul L. Bonington

Advertising Representatives
Jack Garland, (617) 749-5852 (New England States/Northeast Canada)
Douglas Johnson, (610) 935-8522 (Midatlantic States)
Bill Middleton, (404) 973-9190 (Southeastern States/
Central and South America)
Norm Kamikow, (312) 664-7878 (Central States/Central Canada)
John Taggart, (510) 547-4102 (Western States/Western Canada)
Tom Boris, (714) 756-0681 (Southwestern States)

European Advertising Director
Matthew Finlay, +44 (071) 976-0405

Advertising Production Manager
Laura Barber

Mecklermedia Corporation
Chairman and Publisher
Alan M. Meckler

President, MecklerWeb Corporation
Christopher Locke

Senior Vice President, Editorial
Tony Abbott

General Manager, Magazine Division
James S. Mulbolland III

The stock of Mecklermedia Corporation is publicly traded on Nasdaq.
Ticker symbol: MECK

BPA International Membership Applied for February 1994

Internet World (ISSN 1064-3923) is published monthly (except for July/August, November/December) by Mecklermedia Corporation, 20 Ketchum Street, Westport, CT 06880 (203) 226-6967. Mecklermedia is on the Internet (info@mecklermedia.com) and CompuServe (70373,616). Copyright © 1994 Mecklermedia Corporation. All rights reserved.

Subscription: \$29/1yr, \$49/2yr, \$69/3yr; Canadian/Central & South American*: \$41.73/1yr, \$73.83/2yr, \$105.93/3yr (*includes \$10/yr postage & 7% GST tax); Foreign: \$29. Orders from North and South America should be sent to *Internet World*, P.O. Box 713, Mt. Morris, IL 61054; elsewhere to Mecklermedia Ltd., Artillery House, Artillery Row, London SW1P 1RT, U.K. Second class postage paid at Westport, CT, and additional mailing offices. Third class material enclosed. Bulk rate postage paid in Glasgow, KY. Permit #4. POSTMASTER: Send all address changes to *Internet World*, P.O. Box 713, Mt. Morris, IL 61054.

Permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by Mecklermedia Corporation for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the stated fee is paid per copy directly to the CCC, 222 Rosewood Drive, Danvers, MA 01923. Special requests should be addressed to the publisher. The article fee code for this publication is 1064-3923/94 \$15.00+. Otherwise, it is a violation of federal copyright law to reproduce all or part of this publication or its contents by xerography, facsimile, scanning, or any other means. The Copyright Act imposes liability of up to \$100,000 per issue for such infringement.

Printed in the USA.

Aliens Among Us

A horde of new users from America Online, CompuServe, GEnie, and Prodigy is coming onto the Internet.

By Andrew Kantor

If you listen carefully, you can hear the grinding of gears and the creak of metal. The big guns of the on-line world—America Online, CompuServe, GEnie, and Prodigy—are slowly turning and taking aim at the Internet, and cyberspace will never be the same.

For users of these services, the next few years will see the opening of a doorway (gateway, rather) to a vast and almost uncharted resource. For veterans of the Net, it means an influx of new users (often referred to in a less-than-friendly tone as "clueless newbies") that puts the college September Rush to shame.

There has already been a test case: a virtual sacrifice to the gods of the Net, if you will. America Online (AOL) expanded its Internet services in March 1994, making Usenet Newsgroups accessible to its users. But those users quickly learned the hard way that the Internet did not have an enforced Terms of Service to keep users friendly. They were faced with a barrage of verbal attacks. Their crime? Simply not knowing where to post their messages. But on the Internet, ignorance is never an excuse, and there is no friendly sysop only an instant message away.

Of course, from the Internet users' point of view, thousands of postings from aol.com were suddenly invading the Usenet, often in inappropriate newsgroups. ("Someone searching for family in Oregon should know enough not to post in alt.best.of.internet," says one Usenet veteran.)

America Online learned some valuable lessons that the other services should take to heart before taking the

leap beyond their cloistered walls. The most important? That explaining to users what they're getting into may save them a lot of time and trouble . . . and a good deal of embarrassment.

But AOL is not the only service with Net-related troubles. Prodigy opened a local Internet bulletin board so its users could discuss the global computer network. But somewhere along the line a signal got crossed, and users thought the bulletin board *was* the Internet. Messages to the tune of "Hi, I'm in Nebraska. Is anyone out there?" propagated the board, as more savvy participants tried to explain—with limited success—what was going on. So Internet citizens, fresh from dealing with 650,000 spanking new AOL users, dread the impending flood from Prodigy's and CompuServe's four and a half million total subscribers.

America Online: Act II

Despite some problems with quirky Usenet software (it posted some users' messages up to a dozen times) and untrained users, America Online has weathered the storm, and now is ready for the next step. AOL now offers a Gopher client and limited access to some WAIS databases. FTP and telnet services also are planned, although no date has been set, according to managing editor Kathy Ryan. "We've been driven by what our customers ask for," she said.

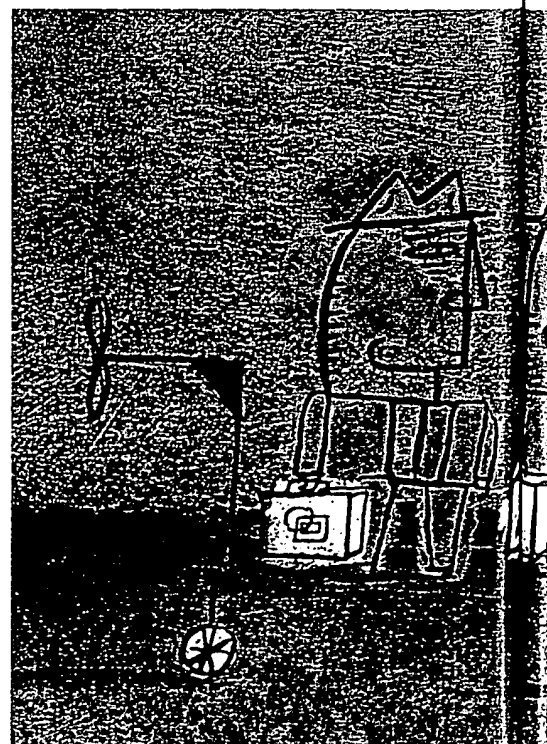
However, AOL's Gopher and WAIS services won't look familiar to veterans of the Internet, and not just because of the graphical look. The two applications have been combined under a single interface: a Gopher-like series of menus that present either text files or other menus. In addition, AOL is limiting the Gopher

information it will make available, and users will only be able to easily access Gopher services that AOL's editors have chosen. Veronica searches also are limited: You cannot choose the server to search. And WAIS searches will not return the relevancy information the system is known for. Thus, AOL's combined Gopher/WAIS offering is a watered-down version of both applications that seems to promise more than it delivers—a charge AOL has faced before.

AOL has been courting partners to increase the services it provides. An alliance with publisher Simon and Schuster, for instance, will allow AOL to offer College Online to provide e-mail and other resources for students and educators as an alternative to the Internet.

Another service being tested is a TCP/IP connection that will enable users to access AOL through an office LAN or via a SLIP or PPP Internet connection. The beta software is only available for

Illustration by James Yang



Macintosh users, and is located at AOL's anonymous FTP site, ftp.aol.com, in the /mac directory. The file is called TCP-for-Mac-AOL-2.1.sea; a README file provides instructions. (AOL's standard Macintosh and Windows software is also available at that site.)

On the Usenet front, complaints about AOL users continue to mount. According to Ryan, "(the reaction) wasn't surprising. When we came onto the Internet, I believe we came on as the single largest site, and we did have some members who didn't understand netiquette." But that's changed now, she says. "I think AOL has done more to educate its users than anyone else." For instance, the service now has unofficial "Net buddies"—Internet-savvy users who monitor Usenet and inform newcomers when they violate netiquette.

America Online's users are not entirely to blame, according to some. AOL software makes it difficult to reply by e-mail (users must post personal follow-ups instead) and users cannot include original message text in their replies. AOL users also must pay \$3.50 per hour to use News because there is no off-line newsreader. That means, as one user puts it, that they must pay to think; the more they think about what they write, the more it costs.

In late August, thanks to an aggressive campaign of giving out free trial

accounts, AOL claimed to have reached the one million subscriber mark, making it slightly less than half the size of CompuServe or Prodigy.

CompuServe: Slow and Steady May Win the Race

While AOL was opening its doors to let its users out, CompuServe's first step was to let its users *in*, by allowing users to telnet to their CompuServe accounts from the Internet. CompuServe can do this for one simple reason: Its service is text-based (although graphical front ends are available) and thus well-suited for use through one of the Internet's typical terminals.

Like the other on-line services, CompuServe has offered an e-mail gateway to the Internet for some time, but it charges for e-mail usage beyond a certain volume: After about 60 free three-page messages each month, users must pay approximately 5¢ for each 1,500 characters they send or receive.

CompuServe recently gave its users access to Usenet News, and provided plenty of warning signs along the way ("This information originates *outside* of CompuServe, and CompuServe therefore claims no responsibility for the content."). However, CompuServe's Usenet software suffers from some of the same problems as America Online's. Most obvious is the inability to automatically insert text from an original message into a follow-up message.

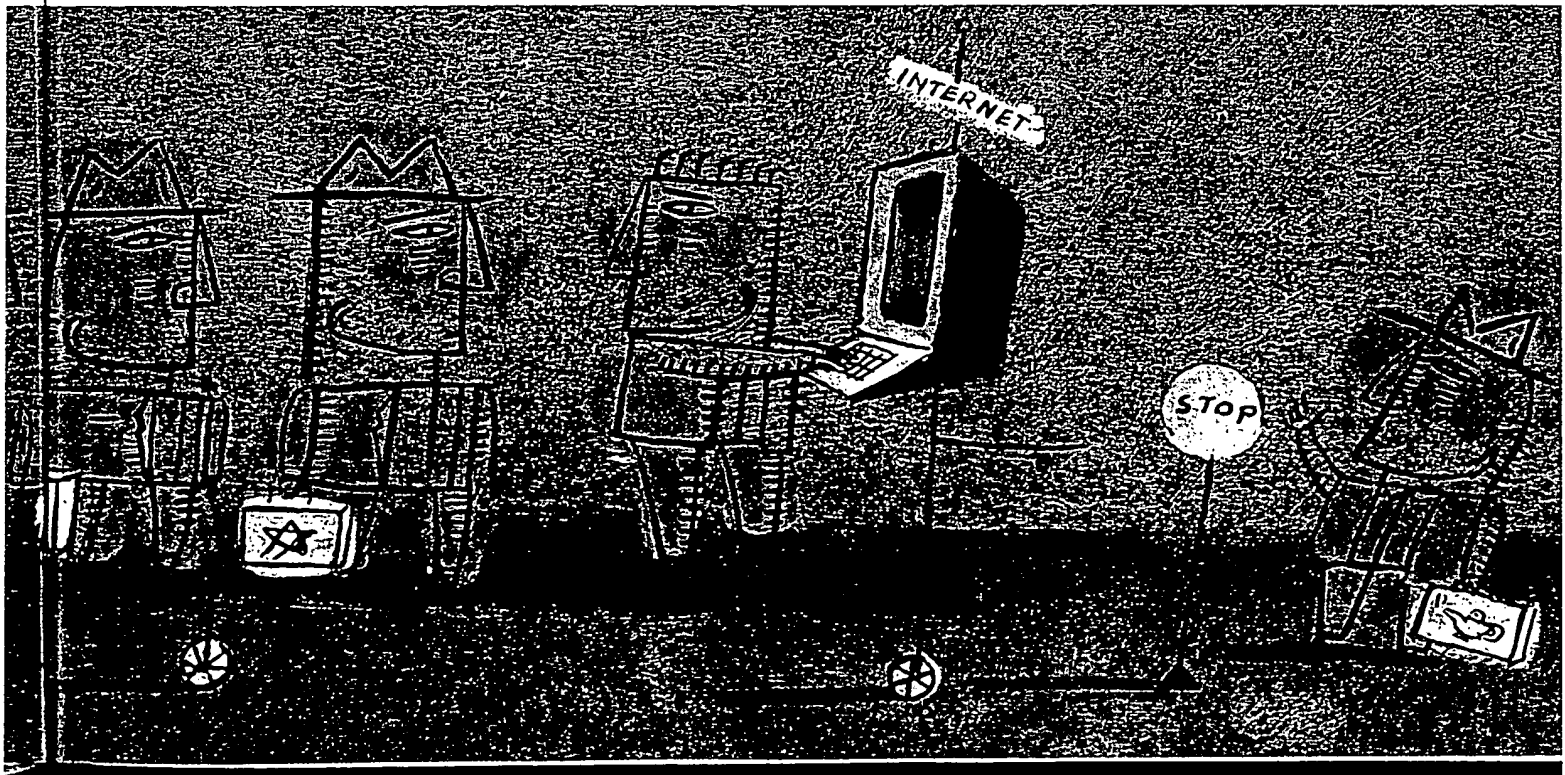
CompuServe's Usenet software betters AOL's in one way: When you choose to reply to a message, the default settings send the reply through e-mail only, and not into the newsgroup—a feature many Usenet residents will appreciate.

While seeking to protect the Internet from breaches of netiquette by its members, CompuServe also is trying to shield its members from any perceived offensive aspects of the Internet. Scroll through the lists of available newsgroups on CompuServe, for example, and alt.sex is nowhere to be found. However, you can subscribe to the newsgroup by typing in the name yourself.

Choosing a group from one of CompuServe's lists is no piece of cake. You must slowly scroll through hundreds of listings in alphabetical order. For example, to find alt.tv.something, you must make your way through everything from alt.1d to alt.travel.roadtrip.

And if you happen to subscribe to one of the ".binaries" newsgroups, where people post encoded pictures, sounds, or movies, the newsreader software offers no means to decode them. America Online left out this function as well, much to the chagrin of the people who frequented those groups.

According to Dave Bezaire, CompuServe's senior product manager, the service is planning several other new Inter-



"Our intention is to be very clear with our members about what the Internet is—to make them aware that they're leaving this world."

net-related features, but does not want to release too many new offerings at one time. "The tremendous press coverage of the Internet has raised expectations sky high," Bezaire says, "so we want to avoid overhyping it in our community before it's available."

Bezaire would not comment on what else might lie ahead for CompuServe. "Our philosophy is to bring Internet services forward on an incremental basis—manage the process, manage the service, and educate the community," he said. "As we release additional Internet products and services, I want it to be a satisfying experience for all our members."

GENie: Holding Its Ground

GENie has been offering an e-mail gateway to and from the Internet for several years, but nothing more. That's the way it will likely stay "for the foreseeable future," according to Vivian Kelly, media relations specialist.

As on AOL, e-mail on GENie is free and unlimited. And GENie users are not entirely cut off from the Net: It offers an Internet RoundTable, in which sysops will gladly search for and retrieve files if requested by users, and will even scan files for viruses. But Kelly says that GENie has been reluctant to offer full Internet access because the service is part of General Electric Information Services (GEIS) and its corporate customers have concerns about security.

Prodigy: In Time, All Things

With more than two million individual users, Prodigy is the world's largest on-line service, and it is preparing to open its door to the Internet—albeit slowly.

Prodigy already has an e-mail gateway to the Internet, although users must acquire separate software to send and receive messages. But that's going to change,

according to product manager Bill Day, who said that basic Internet e-mail capabilities would soon be integrated into the software. "We're reorganizing Prodigy to put more focus on the Internet," Day explained. "We're very excited about it."

The next phase of Prodigy's Internet access will be some refinements to the e-mail software, and access to Usenet News. And Day said the service had given a lot of thought to how Prodigy users would react to the Internet, and vice versa. "We've been thinking about how we should educate our people on how the newsgroups operate. We need to cover How do you behave, and What do you not do?"

Prodigy will try to lessen the force of the impact—if not the scope—in several ways. First, it will cache Usenet News on its own server to reduce the impact on the Internet. Second, unlike America Online, Prodigy won't be making it easy to reach Usenet. "Our approach is that you have to be interested and knowledgeable enough to reach these services," Day said. "The people must be communications savvy. It's not point and click." Those measures, coupled with a "strong education effort," he said, should mean that Prodigy users would know how to behave when they reached Usenet.

Prodigy is also planning to offer services that don't appear on the Internet, including an alliance with CBS to offer interactive entertainment features including show previews.

In terms of the Internet, Day said that Prodigy eventually would offer some sort of Gopher-like access to information on the Internet, including government resources, sound files, and other data that might interest users. But the information would be far from comprehensive, and would be a selection of some of the more popular files. "We would act as a mediator between the Internet and our members," Day said.

"Our intention is to be very clear with our members about what the Internet is, and to be honest about the world out there—to make them aware that they're

leaving this world," Day explained. "We're thinking hard about what we've learned about content and customer service by running our own little on-line service, and that will affect how we pick content and how we present it to people."

Down the Road

The major on-line services are not rushing to provide full Internet access because doing so might well lead to their demise. After all, no matter how you access the Internet—from school, a local provider, or a commercial service—the content is the same. And as better, user-friendly Internet interfaces like Mosaic and Eudora are developed, AOL, CompuServe, and Prodigy will find it harder to differentiate themselves from the Internet.

How can the on-line services compete in this evolving landscape? First, they must keep a step ahead of the Cellos and Trumpets, and must design interfaces that any junior high school student can use. They also must develop a friendly help staff to assist users in learning to cruise in cyberspace. Users only will be willing to pay more if they're getting something extra, such as 24-hour support.

The on-line services also will have to stop charging hourly fees for Internet services. Anyone who follows more than five or six newsgroups knows that on-line time can add up, so why pay \$3-\$10 per hour when you can find a local Internet provider that charges a flat rate?

Another way on-line services could compete with the Internet would be to filter it. Users could be guaranteed an environment that's friendlier, if not as open—a homogenized, pasteurized, porn-free, flame-free Internet.

Now is not the time to place bets on which of the on-line services will prosper or survive. The landscape is changing every day, and no one can venture more than a guess as to how the market will shake out over the next few years.

Andrew Kantor (ak@mecklermedia.com) is associate editor of Internet World.

On Haiti, Shooting From the Lip The Washington Post October 6, 1994, Thu

19 of 21 DOCUMENTS

Copyright 1994 The Washington Post
The Washington Post

October 6, 1994, Thursday, Final Edition

SECTION: STYLE; PAGE B7; CYBERSURFING

LENGTH: 939 words

HEADLINE: On Haiti, Shooting From the Lip

SERIES: Occasional

BODY: "

Pit Stops

For those visiting London who are in need of a quick daytime fix, "Cyberia" -- a "cyberspace cafe" -- has opened recently in central London offering coffee, cakes and connection to the Internet. **Connect charge: 1.95 British pounds** per half-hour. The address is 39 Whitfield St., W1 (near to Goodge Street underground station on Tottenham Court Road).

Jeremy Robinson

robinson@well.com

We also hear that at the Infomart in Dallas, off the Stemmons Freeway west of downtown, the newly opened High Tech Cafe has a computer maitre d' that asks diners in its machine voice, "Nonsmoking, smoking, or modem-ready?" Sure enough, not only is there a phone jack at the table, but a fax machine is ready nearby.

Found something intriguing, improbable, insane or especially useful on the Net? Tip Karen Mason Marrero (kmarrero@aol.com) or Joel Garreau (garreau@well.com).

GRAPHIC: ILLUSTRATION, MARC ROSENTHAL FOR TWP

LOAD-DATE: October 6, 1994

- Attachment H

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE NORTHERN DISTRICT OF ALABAMA
3 EASTERN DIVISION

4 RICHARD P. METTKE,

5 Plaintiff,

6 vs.

7 TOUCHNET INFORMATION SYSTEMS,
8 INC.,

9 Defendant.

10 **ORIGINAL**

11 No. 98-PT-596-E

12 THE DEPOSITION OF DANIEL J. TOUGHEY, produced,
13 sworn and examined on behalf of the Plaintiff pursuant
14 to Notice, between the hours of eight o'clock in the
15 forenoon and six o'clock in the afternoon of Tuesday,
16 June 16, 1998, at the law offices of Spencer, Fane,
17 Britt & Browne, 1400 Commerce Bank Building, 1000
18 Walnut, in the City of Kansas City, in the County of
19 Jackson and State of Missouri, before me,

20 LYDIA HURLEY, RPR
21 BOWEN MOTTER REPORTING
22 911 MAIN, SUITE 1930
23 KANSAS CITY, MISSOURI 64105

24 a Notary Public in and for Jackson County, Missouri,
25 in a certain cause now pending in the United States
District Court for the Northern District of Alabama,
Eastern Division, wherein RICHARD P. METTKE is
Plaintiff and TOUCHNET INFORMATION SYSTEMS, INC., is
Defendant.

A P P E A R A N C E S

For the Plaintiff: Tobor & Goldstein
1360 Post Oak Blvd., Ste 2300
Houston, Texas 77056-3023
By Mr. John T. Polasek

For the Defendant: Spencer, Fane, Britt & Browne
1000 Walnut, Suite 1400
Kansas City, Missouri 64106
By Mr. Richard P. Stitt

- Attachment I -



1930 Commerce Tower, 911 Main Street, Kansas City, MO 64105
Missouri Kansas Toll Free Fax Email
816-421-2876 913-894-8800 1-888-352-1212 816-421-2482 bowenmutter@sprintmail.com

S T I P U L A T I O N S

It is hereby stipulated and agreed by and between the parties herein that presentment to the attorneys of record of a copy of this deposition shall be considered submission to the witness for his signature within the meaning of Federal Rules of Civil Procedure; but shall in no way be considered as a waiver of the witness' signature, and is to be signed at any time before the time of trial; and if not signed by time of trial, may be used with the same force and effect as if signed.

I N D E X

WITNESS:	PAGE
DANIEL J. TOUGHEY	
Examination by Mr. Polasek	4
Examination by Mr. Stitt	83
Further Examination by Mr. Polasek	98
SIGNATURE:	107
CERTIFICATE:	108

INDEX OF EXHIBITS

NO.	DESCRIPTION	PAGE
1	Notice	5
2	Answer to Interrogatory No. 1	17
3	Network Topograph Diagram	20
4	John Murphy Affidavit	25



INDEX OF EXHIBITS (CONT'D.)

	NO.	DESCRIPTION	PAGE
1			
2			
3	5	Videotape "TouchFax America"	40
4	6	1st brochure of product	54
5	7	TF700 TouchNet terminal brochure	55
6	8	TF700 brochure	56
7	9	Not identified	-
8	10	Ad for Telephony Magazine	57
9	11	TF450 brochure	58
10	12	Interactive World article, 10/92	59
11	13	Multimedia Interactive Terminal Loc. ducmt	59
12	14	KC Business Journal article, reprint	60
13	15	1992 brochure	60
14	16	Copy of Patent # 4359631	63
15	17	Info from VPR Creative Group	66
16	18	Invoice from Spinnaker	67
17	19	Invoice to Prodigy	68
18	20	Printout of source code/transaction log	69
19	21	Documents re: TON Services, Inc.	70
20	22	Documents re: Mediatel	74
21	23	Fax to D. Vermeire, 11/92	77
22	24	Document to D. Vermeire, 9/92	79
23	25	License Agreement	80

(Exhibits were retained by Mr. Polasek)



1930 Commerce Tower, 911 Main Street, Kansas City, MO 64105
 Missouri Kansas Toll Free Fax Email
 816•421•2876 913•894•8800 1•888•352•1212 816•421•2482 bowenmotter@sprintmail.com

1 wide web sites they would like to go to. And I
2 believe now America On-Line has a world wide web
3 site and a dedicated interface through a dial-up
4 system, so they have two different paths, if you
5 will. And so I guess ours is the latter, we will
6 provide access to the internet and let somebody
7 decide where they want to go.

8 Q Okay. Let's back up. I was asking you questions
9 that relate to a user of the terminal being billed
10 for access to the internet through the use of a
11 commercial on-line service provider such as
12 Prodigy or AOL, CompuServe.

13 A Yeah.

14 Q And you said that TouchNet does not currently use
15 or have a terminal that does that.

16 A Correct.

17 Q But you did indicate they have plans to do so?

18 A Correct.

19 Q Okay.

20 A But not necessarily through America On-Line as a
21 internet service provider.

22 Q Okay. Then how is it that --

23 A You will go through a variety of different
24 internet service providers so just -- Earth Link,
25 for example, they provide -- let's say they



1 provide internet dial tone basically, right?

2 Q Okay.

3 A And our systems then will -- as if you are the
4 user, will ask you where you want to go.

5 Q Okay.

6 A Or highlight different destination points on the
7 world wide web.

8 Q But if I am the user --

9 A Uh-huh.

10 Q -- I am going to have to put my credit card in
11 there and pay for that access, correct?

12 A That is the plan.

13 Q Okay. And what I am trying to get at is, do we
14 have the terminal and the software set up to do
15 this? Do we expect to roll out a terminal this
16 year, next year --

17 A Yes.

18 Q -- or when?

19 A Very soon.

20 Q At the present time, TouchNet has not rolled out
21 one of those terminals though?

22 A Not that charges for the service.

23 Q Okay. When you say very soon, can you be more
24 specific?

25 A Sometime in the next 30 days. But, again, it is



1 Q That would be on that particular machine?

2 A It would be stored, yes, on that particular
3 machine.

4 Q If they went to a different machine in another
5 part of the airport or something, their card would
6 go through the same validation procedure?

7 A Correct, right, correct.

8 Q This exhibit, Exhibit 3, also references an
9 on-line interactive database. And the second
10 bullet point below that, it says, Public - Access
11 to CompuServe, Prodigy.

12 A Correct.

13 Q This goes back to our earlier discussion, but the
14 terminal that this document attempts to describe
15 does not disclose the use of the credit card to
16 pay for access to CompuServe or Prodigy, correct?

17 A This document doesn't specifically do that.

18 Q And at that time, TouchNet was not -- the terminal
19 was not set up to charge the user for access to
20 CompuServe or Prodigy; is that accurate?

21 A Well, at that time, the terminal didn't even have 1991
22 CompuServe or Prodigy on it. At that time, these
23 were -- these are ideas of what you could do
24 because, again, our main business was selling to
25 third parties our system.



1 internet pop up there. Did you notice that?

2 A No, I didn't.

3 Q Let's see if we can go back. I'm not able to get
4 it stopped there. See if I can try it again.

5 MR. STITT: Let me give it a try.

6 THE WITNESS: I think I did see that.
7 You are in front of it now.

8 (Whereupon, the videotape, Exhibit 5,
9 was rewound to counter 34.)

10 Q (By Mr. Polasek) Now that we have been able to
11 stop the tape, it shows a rectangular gold block
12 labeled internet. I think it is right at -- I
13 thought it was the 36 second mark. It may be 34.

14 MR. STITT: It appears to be 34.

15 Q (By Mr. Polasek) Did that provide for access to
16 the internet? If the user was to touch that icon,
17 I guess is what you would call it, that portion of
18 the TouchNet screen, does that enable a user to
19 gain internet access or do you know?

20 A Not at that time, no. That was like MCI mail
21 above it. Those are possible uses for the system.
22 And so the reason we built this video was to sell
23 our systems. And so, again, the vision of
24 TouchFax, TouchNet was its multipurpose
25 information communication terminal that, depending



1 other types of information databases such as USA
2 Today sport center for on-line sports information.

3 And then the last bullet is BBS, which is for
4 bulletin board service applications, any kind of
5 bulletin board, which was really, you know, a
6 predecessor in many respects, you know, to the
7 world wide web. Different types of information
8 bulletin boards that our system could access.

9 MR. STITT: I think we can go on unless
10 you have redirect.

11 FURTHER EXAMINATION

12 BY MR. POLASEK:

13 Q Yeah, I have some questions starting with what was
14 marked as Exhibit No. 3. Let me start over. With
15 regard to Exhibit 3, isn't it accurate that access
16 to Prodigy and CompuServe was not available at the
17 time that this document was prepared on the
18 TouchNet terminal?

19 A That's correct.

20 Q Okay. So at the time that this document was
21 prepared, you couldn't access Prodigy or
22 CompuServe from a TouchNet terminal?

23 A In 1991, that's correct.

24 Q And this document -- again I think we have been
25 through this -- this document itself does not



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☒ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.